Tamil Nadu Cooperative Milk Producers' Federation Ltd. (TCMPF), Aavin Illam, Madhavaram Milk Colony, Chennai -51, Tamil Nadu

Tender Reference No. 3637/IDMS/2015

Request for Proposal (RFP)
For
Selection of System Integrator (SI) to Implement Integrated Dairy Management System (IDMS)

VOLUME I

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1. Invitation to Bidders

1. The invitation to bid is for "Selection of System integrator (SI) to implement IDMS application" for the period as specified in *Section 9* of this RFP.

2. Bidders are advised to study this RFP document carefully before submitting their proposals in response to this Notice. Submission of a proposal in response to this notice shall be deemed to have been done after careful study and examination of this document with full understanding of its terms, conditions and implications. Failure to furnish all information required as mentioned in the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the Bidder's risk and may result in rejection of the proposal.

3. Tamil Nadu Cooperative Milk Producers' Federation Ltd., (TCMPF / Aavin) invites the eligible parties (hereafter referred as "Bidder") for appointment of System Integrator (SI) for implementation of Integrated Dairy Management System (IDMS) project at TCMPF, Aavin, Tamil Nadu and provides the comprehensive solution as specified in the *Scope of Work* in *Section 6* of this RFP.

4. All proposals submitted in response to the RFP document must be accompanied by an Earnest Money Deposit of Rs. 20,00,000 (Rupees Twenty Lakhs only) in the form of Demand Draft from an Indian Nationalized Bank or a Scheduled Bank in favour of "*Tamil Nadu Co-operative Milk Producers' Federation Ltd.*", *payable at Chennai*.

2. Key information about the tender

1.	Tender Reference No.	3637/IDMS/2015
2.	Name and Address of the Procuring Entity	The Managing Director Tamil Nadu Co-operative milk producers' Federation Ltd., Aavin Illam, Madhavaram Milk Colony, Chennai 600051. Phone: 044 - 23464500-03, Fax: 044 – 23464505
3.	RFP Document Availability	The RFP document can be downloaded free of cost from the following website: http://www.tenders.tn.gov.in/ http://www.aavinmilk.com/ The RFP document can also be purchased from the Date of Publication on all working days during office hours at the address mentioned below: Tamil Nadu Co-operative milk producers' Federation Ltd., Aavin Illam, Madhavaram Milk Colony, Chennai 600051 by paying Rs. 5,000/- as cost of tender document in cash / through Demand Draft drawn from a Schedule bank in favour of "*Tamil Nadu Cooperative Milk Producers' Federation Ltd*", payable at *Chennai* The tender document shall be sent to the prospective bidder by registered post or courier on payment of cost by paying Rs. 5500/- as cost of tender document including postal charges through Demand Draft drawn from a scheduled bank in favour of "*Tamil Nadu Cooperative Milk Producers' Federation Ltd*", payable at *Chennai* at the risk and responsibility of the prospective bidder.
4.	E-Publication Web Site	This Tender can be submitted online at the following website: http://www.tntenders.gov.in/ Bidders are encouraged to submit their bids through the electronic mode. In case of submission through the electronic mode, Bidders are advised to send only the EMD, Pre-Qualification and Technical Bid documents. No hard copy of the Commercial Bid should be sent.
5.	Earnest Money Deposit	Earnest Money Deposit of Rs. 20, 00,000 (Rupees Twenty Lakhs only) in the form of Demand Draft from an Indian Nationalized Bank or a Scheduled Bank in favour of "*Tamil Nadu Co-operative Milk Producers' Federation Ltd.*", payable at *Chennai*.
6.	Last date to send in requests for clarifications on the tender	Pre-Bid Queries shall be sent to the following email ID aavinidms@gmail.com as per format attached in *Section 4.8 of this RFP* on or before 11-Apr-2015

7.	Time, Date and Venue for Pre- Bid Conference	11:00 AM, 13-Apr-2015 Tamil Nadu Co-operative milk producers' Federation Ltd., Aavin Illam, Madhavaram Milk Colony, Chennai 600051. Phone: 044 - 23464500-03, Fax: 044 – 23464505
8.	Time, Date and Venue for submission of bids	3:15 PM, 11-May-2015 Tamil Nadu Co-operative milk producers' Federation Ltd., Aavin Illam, Madhavaram Milk Colony, Chennai 600051. Phone: 044 - 23464500-03, Fax: 044 – 23464505
9.	Opening of bids and Venue	3:30 PM, 11-May-2015 Tamil Nadu Co-operative milk producers' Federation Ltd., Aavin Illam, Madhavaram Milk Colony, Chennai 600051. Phone: 044 - 23464500-03, Fax: 044 – 23464505
10.	Presentation by short-listed bidders, if required (Technical Bid)	To Be Declared Later
11.	Declaration of short-list of bidders for commercial bid	To Be Declared Later
12.	Declaration of Technically Qualified Bidders for opening of commercial bid	To Be Declared Later
13.	Language of the bid	This bid should be filled in English language only. If any supporting documents are to be submitted, in any other language other than English, then translation of the same in English language, attested by the bidder, should be attached.

3. Pre-Qualification Requirements

The bidder must possess the requisite experience, strength and capabilities in providing the services necessary to meet the requirements, as described in the tender document. The bidder must also possess the technical know-how and the financial wherewithal that would be required to successfully provide the services sought by the TCMPF (Aavin) for the entire period of the contract. The bids must be complete in all respect and should cover the entire scope of work as stipulated in the Tender document else the bids shall be summarily rejected.

The invitation to bid is open to all bidders who qualify the eligibility criteria as given below:

#	Pre-Qualification Criteria	Documents to be attached
1.	The Bidder should be an "entity" registered under an appropriate act of parliament or laws of state legislature in India.	• A valid copy of "Certificate of Registration" from Government Authorities including "name change certificate" (if any) and Constitutional documents highlighting the IT system Integration services • Duly filled PQ Form 2: Information about the bidder of Pre-Qualification Proposal Templates
2.	The bidder should provide PAN no., Service Tax Registration no., TIN no. under VAT Act CST Registration no. and EPF Registration no.	• Copies of PAN Card and proof for CST, VAT and Service Tax registration Certificates, EPF Registration certificate along with copies of recent Returns filed with the respective authorities. • Details to be filled in the PQ Form 2: Information about the bidder of Pre-Qualification Proposal Templates
3.	The Bidder should have experience in Turnkey Projects / IT related services (such as application software development and maintenance, database management, networking, User Hardware, IT Compute Infrastructure etc.) over last 5 years (as on 31st March 2015). The Bidder should be in the business as IT System Integrator for more than 5 years as of 31st March 2015. SI Services should include "Application Development and Implementation" along with any 3 of the following services through a single project with the same client: I. Application Support and Maintenance II. Installation and Commissioning of IT Compute Infrastructure (Data	• Duly updated PQ Form 3: Experience in IT System Integrator Business of Pre-Qualification Proposal Templates • Copy of Work Orders / Contract confirming year & date (dated before 1st April 2010) and IT related services (application software development and maintenance)

#	Pre-Qualification Criteria	Documents to be attached
	Centre Infrastructure) III. Maintenance of IT Compute Infrastructure (Data Centre Infrastructure) IV. Help Desk Services V. Training & Capacity Building	
4.	The Bidder should have successfully completed at least one IT System Integrator turnkey project experience for any manufacturing/production/supply chain domain with a minimum project value of INR 10 Crores. The project should have been successfully implemented (the solution implemented should be operational) in last 5 years as on 31st March 2015 In case projects are quoted for any currency other than INR, selling exchange rate of State Bank of India as on 31st March 2015 will be considered for conversion purposes	• Duly updated PQ Form 4: Experience in Manufacturing/Production/Supply chain domain of Pre-Qualification Proposal Templates • One project with IT SI Turnkey project with Work order dated on or after 1st April 2010 • Client certificate stating the successful Completion of the project *Note:* • *In case of Public Private Partnership (PPP) projects, the bidder should furnish the necessary supporting documents (Work Order / Client Certificates) to enable the evaluation committee to ascertain the project value else such projects shall not be considered for evaluation*
5.	The Bidder should have average annual Turnover of INR 60 crores for the last three financial years i.e. FY: 2011-12, FY: 2012-13, FY: 2013-14 from activities related to Information Technologies Activities The Bidders should provide statements for their legal entities only. Financial statements should not include values from Parent organizations, subsidiaries, etc.	• Copies of Financial Statements and Certificate from Statutory Auditor ascertaining Turnover from IT System Integration (SI) services for the last 3 financial years for the Bidder i.e. FY: 2011-12, FY: 2012-13, FY: 2013-14 • Duly updated PQ Form 5: Financial Capability of Pre-Qualification Proposal Templates
6.	The Bidder should have positive net worth as on 31st March 2014	• A copy of Certificate signed by the statutory auditor/Chartered Accountant certifying the positive net worth as on 31st March 2014
7.	Bidder should have a minimum number of 100 IT Technically Qualified Professional Staff as on 31st March, 2015 on its rolls in India.	• A self-certification in the prescribed template as per PQ Form 6: Self Declaration format for Professional Human Resource of Pre-Qualification Proposal Templates from the bidder's HR Department certifying the list of minimum 100 IT technically qualified professionals in the rolls of the bidder's organization in India as on 31st March 2015 • Technically Qualified professional staff means those persons who have Engineering and / or MCA and / or Management and / or

#	Pre-Qualification Criteria	Documents to be attached
		Doctoral degrees.
8.	Bidder should not have been black listed or had their contract terminated for default on the part of the bidder by any State Government or Government agency or public sector body in India.	• A self-certified letter in the prescribed template as per PQ Form 7: Declaration format for not being blacklisted of Pre-Qualification Proposal Templates by the Authorized signatory of the bidder's organization
9.	Bidder should have a valid ISO 9001:2008 certification.	• Copy of certification which is valid on Tender submission date. PQ Form 8: Organization Certificate of Pre-Qualification Proposal Templates
10.	Bidder should hold a valid CMM Level V certification	• Relevant certificate needs to be attached which is valid on Tender due date PQ Form 9: CMM Level V Certificate of Pre-Qualification Proposal Templates
11.	The Bidder Should have a local office in Chennai, Tamil Nadu. The bidder shall mention the full address and telephone numbers of the Chennai office. Alternately, the bidder shall give an undertaking for setting up the local office in Chennai within 2 months from date of contract signing, if awarded the contract.	• Local address proof such as copy of the rent Agreement /latest Telephone bills. *(OR)* • If the bidder doesn't have local office then bidder shall submit an undertaking letter as per the prescribed format in PQ Form 10: Undertaking for setting up the local office in Tamil Nadu of Pre-Qualification Proposal Templates accepting to setup a local office in Tamil Nadu within 2 months from date of contract signing
12.	The Bidder should furnish, as part of the bid, an Earnest Money Deposit (EMD) of Rs. 20,00,000/-	• The EMD should be denominated in Indian Rupees, and should be in the form of Demand Draft/ Bank Pay Order from an Indian Nationalized Bank or a Scheduled Bank as per Section: 4.4.10 Volume I, in this RFP

4. Instruction to Bidders

4.1. Advice to the bidders

Bidders are advised to study this RFP document carefully before participating. It shall be deemed that submission of Bid by the bidder has been done after their careful study and examination of the RFP document with full understanding to its implications. The Bidder should sign and affix seal of the entity in each page of the three volumes of this RFP and submit along with the Pre-Qualification Bid.

4.2. Sale of bid document

- The Bid Document can be obtained from TCMPF (Aavin) as mentioned in *Key information about the tender, Section 2* of this RFP
- Bids not submitted in prescribed form will be rejected

4.3. Schedule of Tender Process

The detailed tender schedule is prescribed in *Section 2– "Key information about the tender"* of this RFP.

4.4. Procedure for Submission of Bids

4.4.1. Cover System

There will be a **Three Cover System** for this tender:

- **Pre-Qualification Bid – Two Copies** In one cover (along with the same information in single text searchable PDF file in a CD/Pen Drive) in addition to the EMD.
- **Technical Bid – Two Copies** In one cover (along with the same information in single text searchable PDF file in a CD/Pen Drive)
- **Commercial Bid – One Copy** In one cover (along with the same information in single text searchable PDF file and in One MS Excel 2010 File in a CD/Pen Drive)

Pre-Qualification Bid, Technical Bid and Commercial Bid of the Tender should be covered in separate sealed covers super-scribing **"Pre-Qualification Bid"**, **"Technical Bid"** and **"Commercial Bid"** respectively. **Prices should be quoted in the Commercial Bid only.**

The covers containing Pre-Qualification Bid, Technical Bid and Commercial Bid should be put in another single sealed envelope clearly super scribing **"SELECTION OF SYSTEM INTEGRATOR (SI) TO IMPLEMENT IDMS at TCMPF (Aavin)"** This envelope is to be super scribed with Tender Number, Due Date of submission, Item and the wordings **"DO NOT OPEN BEFORE DECIDED DATE AND TIME OF PRE QUALIFICATION"**

The cover thus prepared should also indicate clearly the name, address and telephone number of the bidder.

The tender should be a complete document and should be bound as a volume, bearing signature of the bidder and seal of the entity in each page of the document. The document should be serially page numbered and must contain the list of contents with page numbers.

All CDs / Pen Drives submitted by the Bidder must be in sealed covers. The sealed covers as well as the CD media must be duly signed by the Bidder using a "Permanent Pen/Marker", should be super scribed with "**Pre-Qualification Bid**" / "**Technical Bid**" / "**Commercial Bid**" (as the case may be) and should bear the name of the Bidder.

Bidder must ensure that the information furnished by him in respective CDs is identical to that submitted by him in the original paper bid document. In case of any discrepancy observed by TCMPF (AAVIN), in the contents of the CDs and original paper bid documents, the information furnished on original paper bid document will prevail over the soft copy. Bidder must ensure that Technical Bid CDs do not contain any Commercial Bid information / prices. In case of major differences between the hard copy and the soft copy, the tender is liable to be rejected.

The bid shall be typed in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. All pages of the bid, except for un-amended printed literature, shall be signed and stamped by the person or persons signing the bid.

The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be authenticated by the person or persons signing the bid. The Bidder shall duly sign and seal its bid with the exact name of the firm/company to whom the contract is to be issued.

All the Bids submitted by hand should be put in the Tender Box at the specified office not later than the specified date and time in *Key information about the tender, Section 2* of this RFP.

Telefax / Xerox / Photocopy bids will not be considered.

E-Submission

The Tenders can also be submitted online as per Section 2 of this RFP. In case of online submission, Bidders are required to ensure that the EMD in original, reach the Procuring Entity at the address mentioned in Section 2 of this RFP, before the last date and time of bid submission.

4.4.2. Transferability of the RFP document

This RFP document is non-transferable.

4.4.3. Misplacement of the Bid or RFP document

TCMPF shall not be responsible for any postal delay about non-receipt / non-delivery of the documents.

4.4.4. Pre Bid Meeting

TCMPF shall hold a Pre-Bid Meeting (PBM) scheduled as per *Key information about the tender, Section 2* of this RFP. In this PBM, TCMPF (Aavin) would address the clarifications sought by the prospective bidders with regard to the RFP document and the project. The bidders would be required to submit their queries to TCMPF (Aavin) by e-mail on or before schedule specified in as per *Key information about the tender, Section 2* of this RFP.

Bidders who have downloaded the RFP document are invited to attend the PBM even they do not have any specific queries. These bidders would be required to register for the PBM at TCMPF (Aavin).

The minutes of the PBM shall be circulated to all the participants of the meeting who choose to share their e-mail addresses and also will be posted at the website. No extension to any deadline referred to in this document will be granted on the basis or grounds that TCMPF (Aavin) should respond to any queries to provide any clarification.

The clarification offered at the Pre-Bid meeting will be recorded and the corrigendum/addendum issued will form part of the tender document. Prospective Bidders alone will be allowed for the meeting along with the authorization letter.

4.4.5. Address at which the bids are to be submitted

As per *Key information about the tender, Section 2* of this RFP

4.4.6. Last time and date for receipt of bid:

As per *Key information about the tender, Section 2* of this RFP

4.4.7. Place, time and date of opening of pre-qualification bid

As per *Key information about the tender, Section 2* of this RFP

4.4.8. Extension of Deadline for submission of Proposals

Proposals must be received by the TCMPF (Aavin) at the address specified in the RFP not later than scheduled date and time. TCMPF (Aavin) may, in exceptional circumstances and at its discretion, extend the deadline for submission of Proposals by issuing a Corrigendum or by intimating all System Integrators who have purchased the RFP document, in writing by post or email. In this case, all rights and obligations of the TCMPF (Aavin) and the System Integrators previously subject to the original deadline will thereafter be subject to the deadline as extended.

4.4.9. Late Submission of Bid

Any Bid received by the TCMPF (Aavin) after the deadline for submission of Proposals prescribed in RFP or Corrigendum will be returned unopened to the respective Bidder.

4.4.10. Earnest Money Deposit (EMD)

All bids must be accompanied by **Rs. 20,00,000 (Rupees Twenty Lakhs only)** in the form of Demand Draft from an Indian Nationalized Bank or a Scheduled Bank in favour of "***Tamil Nadu Co-operative Milk Producers' Federation Ltd***.", *payable at* ***Chennai*** as EMD. Demand Draft should be obtained only after issue of tender notification.

4.4.11. Cross checking

TCMPF (Aavin) reserves the right to contact and verify bidder's information, references and data submitted in the bid proposal without further reference to the bidder.

4.4.12. Absence of specifications

The absence of specifications details regarding any equipment to be supplied under this RFP implies that best general practices will prevail and that first quality material and workmanship will be applied as per the discretion of TCMPF (Aavin). Certification standards, wherever available, for the to-be-installed equipment and materials, will prevail.

4.5. Cost to Bid

The Bidder shall bear all costs associated with the preparation and submission of its bid, including cost of presentation for the purposes of clarification of the bid, if so desired by the TCMPF (Aavin). The TCMPF (Aavin) will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.

4.6. Earnest Money refund

- The earnest money to the bidder(s), who fail(s) to qualify for the pre-qualification bid, will be refunded to the bidder against a proper receipt
- The earnest money to the bidder(s), who fail(s) to qualify for the technical bid, will be refunded to the bidder against a proper receipt
- The earnest money to the bidder, who qualify for the commercial bid, but do not get the order for the project, will be refunded to the bidder against a proper receipt within one month after signing of contract agreement between TCMPF (Aavin) and the successful bidder.

4.7. Clarifications in RFP Document

A prospective Bidder requiring any clarification on the Bidder Document may submit his queries, in writing, at the TCMPF (Aavin) mailing address and as per schedule indicated in ***Key information about the tender, Section 2*** of this RFP. The queries must be submitted only in the format mentioned to be considered for clarification. One MS-Excel copy of the said queries should also be sent by e-mail.

4.8. Pre-Bid Queries Format

TCMPF - Pre-Bid Queries – Tender No. 3637/IDMS/2015						
Bidder Name (Organization) and Address				**Mobile No.**		
Representative Name				**e-mail ID**		
S. No.	RFP Volume	Page No.	Section No.	Clause No.	Actual Clause in the RFP	Clarification Sought / Amendment Requested
1.						
2.						

The queries not adhering to the above mentioned format shall not be responded to.

TCMPF (Aavin) will respond to any request for clarification to queries on the Tender Document, received not later than the dates prescribed in *Key information about the tender, Section 2* of this RFP. Copies of the clarifications (including the query but without identifying the source of inquiry) will be sent to all prospective Bidders who have purchased the Tender Documents and will be uploaded in the website.

4.9. Language of Bids

The Bids prepared by the Bidder and all correspondence and documents relating to the bids exchanged by the Bidder and TCMPF (Aavin), shall be written in English language, provided that any printed literature furnished by the Bidder may be written in another language so long the same is accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

4.10. Documents Comprising the Bids

The bid prepared by the Bidder shall comprise of the following components:

4.10.1. Pre-Qualification Bid

The pre-qualification Bid, besides the other requirements of the Tender, shall comprise of the following:

- Compliance for Pre-Qualification criteria
- Pre-Qualification Bid letter
- EMD
- All documents supporting the pre-qualification criteria
- Power of Attorney executed by the Bidder in favour of the Principal Officer or the duly Authorized Representative, certifying him as an authorized signatory for the purpose of this Tender
- Three volumes of the RFP document duly signed with seal by the bidder in all the pages

4.10.2. Technical Bid

The Technical Bid, besides the other requirements of the Tender, shall comprise of the following:

- Compliance for Technical Evaluation criteria
- Technical Bid Letter
- General information about the Bidder
- Technical Solution
- Specifications of the Physical Components
- Specifications of the IT Components
- Unpriced Bill Of Materials (BOM)
- Manpower Details
- Deviations from Required Specifications

4.10.3. Commercial Bid

The Commercial Bid, besides the other requirements of the Tender, shall comprise of the following:

- Commercial Bid Letter
- Breakup of Price Components

4.11. Bid Prices

- The Bidder shall indicate in the Performa prescribed, the unit rates and total Bid Prices of the equipment / services, it proposes to provide under the Contract. Prices should be shown separately for each item as detailed in Tender Documents. In absence of above information as requested, a bid may be considered incomplete and be summarily rejected.
- SI shall provide "Most Preferred Customer" status to the TCMPF (Aavin). Accordingly, the prices payable for services relating to the Physical & IT infrastructure components, Maintenance and Management shall in no event exceed the lowest price at which the SI offers similar services to any other customer during the currency of the contract.
- The Bidder shall prepare the bid based on details provided in the tender documents. It must be clearly understood that the Scope of Work is intended to give the Bidder an idea about the order and magnitude of the work and is not in any way exhaustive and guaranteed by TCMPF (Aavin). The Bidder shall carry out all the tasks in accordance with the requirement of the tender documents & due diligence and it shall be the responsibility of the Bidder to fully meet all the requirements of the tender documents. If during the course of execution of the project any revisions to the work requirements like Technical specifications, Equipment sizing etc. is to be made to meet the goals of IDMS project. All such changes shall be carried out within the current price without any impact to TCMPF (AAVIN).

4.12. Firm Prices

- Prices quoted in the bid must be firm and final and shall not be subject to any upward modifications, on any account whatsoever. However, TCMPF (AAVIN) reserves the right to negotiate the prices quoted in the bid to effect downward modification. The Bid Prices shall be indicated in Indian Rupees (INR) only.

- The Commercial bid should clearly indicate the price to be charged without any qualifications whatsoever and should include all taxes, duties, fees, levies, works contract tax and other charges as may be applicable in relation to the activities proposed to be carried out. It is mandatory that such charges wherever applicable / payable should be indicated separately. However, should there be a change in the statutory levies and applicable taxes, by State Government/Central Government shall be effected on the end price to the benefit of either the bidder or TCMPF (Aavin) as the case may be.

4.13. Bidder Qualification

- The "Bidder" as used in the tender documents shall mean the one who has signed the Tender Form. The Bidder may be either the Principal Officer or his duly Authorized Representative, in either cases he / she shall submit a certificate of authority. All certificates and documents (including any clarifications sought and any subsequent correspondences) received hereby, shall be furnished and signed by the representative and the principal.
- It is further clarified that the individual signing the tender or other documents in connection with the tender must certify whether he/she signs as the Constituted attorney of the firm, or a company.
- The authorization shall be indicated by written power-of-attorney accompanying the bid.
- The power or authorization and any other document consisting of adequate proof of the ability of the signatory to bind the Bidder shall be annexed to the bid.
- Any change in the Principal Officer shall be intimated to TCMPF (Aavin) in advance.

4.14. Period of Validity of Bids

- Bids shall remain valid for 90 days from the date of opening of Bids prescribed by TCMPF (Aavin). A bid valid for a shorter period may be rejected as non-responsive.
- TCMPF (Aavin) may request the Bidder(s) for an extension of the period of validity for completion of evaluation. The request and the responses thereto shall be made in writing (or by fax). The validity of EMD shall also be suitably extended.
- Subject to TN Transparency in Tender Act and Rules framed thereof.

4.15. Local / Site Conditions

- It will be incumbent upon each Bidder to fully acquaint himself with the local conditions and other relevant factors at the proposed TCMPF (Aavin) sites which would have any effect on the performance of the contract and / or the cost. The Bidders are advised to visit the proposed locations (at its own cost) and due-diligence should be conducted before the pre-bid meeting/ bid-submission.
- The Bidder is expected to make a site visit to the proposed TCMPF (Aavin) sites to obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into contract. Obtaining such information shall be at Bidder's own cost.
- Failure to obtain the information necessary for preparing the bid and/or failure to perform activities that may be necessary for the providing services before entering into contract will in no way relieve the successful Bidder from performing any work in accordance with the Tender documents.
- It will be imperative for each Bidder to fully inform themselves of all legal conditions and factors which may have any effect on the execution of the contract as described in the bidding

documents. The TCMPF (Aavin) shall not entertain any request for clarification from the Bidder regarding such conditions.

- It is the responsibility of the Bidder that such factors have properly been investigated and considered while submitting the bid proposals and that no claim whatsoever including those for financial adjustment to the contract awarded under the bidding documents will be entertained by TCMPF (Aavin) and that neither any change in the time schedule of the contract nor any financial adjustments arising thereof shall be permitted by TCMPF (Aavin) on account of failure of the Bidder to appraise themselves of local laws and site conditions.

4.16. Modification and Withdrawal of Bids

- No bidder shall be allowed to withdraw the bids after submitting the bid
- The Bidder may submit a modified bid before the last date prescribed for receipt of bids, provided that where more than one bid is submitted by the same bidder, the lowest eligible Commercial bid shall be considered for evaluation

4.17. Opening of Pre-qualification Bids

- Decision of TCMPF (Aavin) on evaluation of the Prequalification Bids would be final and binding
- TCMPF (Aavin) will open the Pre-qualification Bid, in the presence one authorized representative of the Bidder who choose to attend, at the time, date and place, as mentioned in *Key information about the tender, Section 2* of this RFP.
- The Bidder's names, modifications and the presence or absence of the requisite EMD and such other details considered appropriate will be announced at the bid opening.

4.18. Opening of Technical Bids

- TCMPF (Aavin) will open the Technical Bid, in the presence of one authorized representative of the Bidder who chooses to attend, at the time, date and place, as mentioned in *Key information about the tender, Section 2* of this RFP.
- The Bidder's names, modifications and such other details considered appropriate will be announced at the bid opening.

4.19. Evaluation of Bids

The evaluation process of the tender proposed to be adopted by the TCMPF (Aavin) is indicated under this clause. The purpose of this clause is only to provide the Bidders an idea of the evaluation process that the TCMPF (Aavin) may adopt. However, the TCMPF (Aavin) reserves the right to modify the evaluation process at any time during the Tender process, without assigning any reason, whatsoever. An intimation thereon, will be provided as required under Tamil Nadu Transparency in Tenders Act and Rules.

4.19.1. Preliminary Examination

- The TCMPF (Aavin) will examine the bids to determine whether they are complete, whether the bid format confirms to the Tender requirements, whether required EMD has been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- A bid determined as not substantially responsive will be rejected by the TCMPF (Aavin) and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

4.19.2. Clarification

When deemed necessary, during the tendering process, the TCMPF (Aavin) may seek clarifications or ask the Bidders to make Technical presentations on any aspect from any or all the Bidders. However, that would not entitle the Bidder to change or cause any change in the substance of the tender submitted or price quoted.

4.19.3. Evaluation of Bids

- Pursuant to the pre-qualification criterion bidders will be short-listed for technical bid. Technical bids will be opened only for the bidders who succeed the pre-qualification criterion.
- At the stage of technical evaluation, TCMPF (Aavin) will assign points (quality of services score) to the pre-qualified bidders based on the technical evaluation criterion prescribed in this RFP. To qualify the technical evaluation stage, the bidder must score a minimum of **70 marks**.
- The commercial bids of the technically qualified bidders as specified above will then be opened and reviewed to determine whether the commercial bids are substantially responsive in respect of commercial considerations. The **evaluation will be made on the basis of Least Cost or L1**, the bidder with the lowest cost would be declared successful.
- Additional information/clarification – TCMPF (Aavin) reserves the right to ask for any additional information, as it may deem necessary to evaluate the bid proposal. Bidders that fail to submit additional information or clarification as sought by evaluation committee within 10 days of the receipt of letter requesting for such additional information and/or clarification from TCMPF (Aavin), their bids will be evaluated based on the information furnished along with the bid proposal.

4.19.4. Technical Evaluation Criteria

The following criteria shall be used to evaluate the technical bids. All the bids scoring 70 and above in the technical evaluation will be qualified for commercial bid opening.

- Evaluation will be carried out for the compliance against the Technical Bid. The Technical Bid will be evaluated based on the compliances filled up in the technical bid and also all the terms and conditions of the tender. The tenders that do not confirm to the tender conditions and tenders from firms without adequate capabilities for execution of the work as per tender requirements shall be liable for rejection straight away, specifying the reason.
- The entire documentary proof shall be legible & readable otherwise the document will not be considered for evaluation.
- No content in the documentary proofs should be scored/shaded/deleted/erased otherwise the document will not be considered for evaluation

The Technical Bid will be examined and evaluated by the Technical Evaluation Committee (TEC) as detailed below:

S. No.	Criteria	Max Criteria/ Sub Criteria Marks
1	Past Experience of the responding firm	50
2	Solution proposed	20
3	Proposed Approach & Methodology	15
4	Resource Deployment	15
Total Points		100

The detailed criteria is as follows:

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
1	**Past Experience of the responding firm**			**50**	
A	**Financial Turnover**	Average Turnover for the Bidder from IT related services which include Application development & support / IT hardware supply & maintenance / Data Centre establishment & maintenance / providing network connectivity during the last three financial years (FY: 2011-2012, FY: 2012-2013, FY: 2013-2014)	The Bidder having an average Turnover for last three financial years (FY: 2011-2012, FY: 2012-2013, FY: 2013-2014), will be awarded marks as below • >=100 crore = 5 marks • >=90 crore but < 100 crore = 4 marks • >=80 crore but < 90 crore = 3 marks • >=70 crore but < 80 crore = 2 marks • >=60 crore but < 70 crore = 1 mark	**5**	Duly filled **Tech Form 6** of Technical Proposal Templates, supported by documentary evidence.
B	**System Integration projects**	The bidder should submit **THREE** projects and provide client references for successful completion/ongoing of an integrated turnkey project in India comprising of at least any two of the following: • Application software development • Supply & Commissioning of IT Compute Infrastructure • O&M phase for maintaining all of the above.	Average to be used for the maximum of 3 projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 20 Crores = **10 marks** • More than INR 16 Crores to INR 20 Crores = **8 marks** • More than INR 12 Crores to INR 16 Crores = **6 marks** • More than INR 8 Crores to INR 12 Crores = **4 marks** • More than INR 4 Crores to INR 8 Crores = **2 marks**	**10**	Duly filled **Tech Form 1.A** of Technical Proposal Templates, supported by documentary evidence

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
			• Else 0		
C	**IT Data Centre Infrastructure commissioning & management** *(value pertaining to IT Infrastructure management would be considered for evaluation; in case the break-up value is not explicitly mentioned, 30% of the project value would be considered for evaluation)*	The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of IT compute Infrastructure supply & commissioning in India	Average to be used for the maximum of 3 projects for evaluation. For each project the marks would be based on the following : If the Average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 6 Crores = **5 marks** • More than INR 5 Crores to INR 6 Crores = **4 marks** • More than INR 4 Crores to INR 5 Crores = **3 marks** • More than INR 3 Crores to INR 4 Crores = **2 marks** • More than INR 2 Crore to INR 3 Crores = 1 **marks** • Else 0	**5**	Duly filled **Tech Form 1.B** of Technical Proposal Templates, supported by documentary evidence
D	**Software Development** *(value pertaining to software development and management component would be considered for evaluation; in case the break-up value is not explicitly mentioned, 10% of the project value would be*	The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of *Software Development* with value more than INR 1.00 Crore – for software development and management component in India; such projects	Average to be used for the maximum of **3** projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 5 Crores = **10 marks** • More than INR 4 Crores to INR 8	**10**	Duly filled **Tech Form 1.C** of Technical Proposal Templates, supported by documentary evidence

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
	considered for evaluation)	should core services offered through Mobile based Services to citizens or large private stakeholders	Crores = **4 marks** • More than INR 6 Crores to INR 4Crores = **3 marks** • More than INR 4 Crores to INR 3Crores = **2 marks** • More than INR 2 Crore to INR 2 Crores = **1 mark** • Else 0		
E	**Operations & Maintenance Services** *(value pertaining to O&M services for Application/IT Compute Infrastructure component would be considered for evaluation; in case the break-up value is not explicitly mentioned, 10% per year of the project value for the O&M period would be considered for evaluation)*	The bidder should have experience in providing similar Operations & Maintenance Services for application, IT Infrastructure management in India. The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of Operations and Maintenance Services in India	Average to be used for the maximum of 3 projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 6 Crores PA = **10 marks** • More than INR 5 Crores PA to INR 6 Crores PA = **8 marks** • More than INR 4 Crores PA to INR 5 Crores PA = **6 marks** • More than INR 3 Crores PA to INR 4 Crores PA = **4 marks** • More than INR 2 Crore PA to INR 3 Crores PA = **2 marks** • Else 0	**10**	Duly filled **Tech Form 1.D** of Technical Proposal Templates, supported by documentary evidence

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
F	**Dairy Project Experience**	The bidder should have experience in successful implementation project with Dairy sector in any State/UT in India The Bidder should submit **TWO** projects and provide client references for successful completion/ongoing that clearly mentions the scope of services provided to Dairy Sector in India	Average to be used for the maximum of **2** projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 2] is: • More than INR 5 Crores = **5 marks** • More than INR 4 Crores to INR 5 Crores = **4 marks** • More than INR 3 Crores to INR 4Crores = **3 marks** • More than INR 2 Crores to INR 3Crores = **2 marks** • More than INR 1 Crore to INR 2 Crores = **1 marks** • Else 0	**5**	Duly filled **Tech Form 1.E** of Technical Proposal Templates, supported by documentary evidence
G	**e-Governance implementation Project Experience**	The bidder should have experience in successful e-Governance project implementation in any State/UT Central Government department in India	Average to be used for the maximum of **3** projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 5 Crores = **5 marks** • More than INR 4 Crores to INR 5 Crores = **4 marks**	**5**	Duly filled **Tech Form 1.F** of Technical Proposal Templates, supported by documentary evidence

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
			• More than INR 3 Crores to INR 4Crores = **3 marks** • More than INR 2 Crores to INR 3Crores = **2 marks** • More than INR 1 Crore to INR 2 Crores = **1 mark** • Else 0		
Note : • **For all projects cited for the above mentioned criteria the bidder must ensure to comprehensively establish the scope project value & project break-up** • **In case of PPP projects, the bidder should furnish the necessary supporting documents (Work Orders / Certificates from the clients) to enable the evaluation committee to ascertain the project value lest such projects shall not be considered for evaluation.**					
2	**Solution proposed**			**20**	
A	**Proposed solution**	Requirements addressed as mentioned in different parts of the RFP and the quality of the solution	Evaluation Committee will evaluate whether all the points/ requirements mentioned in the RFP are addressed well and award points accordingly, the important parameters being:- • Solution architecture conceptualized for this entire project, approach on data model, data design, UI and UX. = **1 mark** • Robustness of field office device functionality, properties etc. =**1 mark** • Strategy for high availability of solution =**1 mark** • Data Centre infrastructure robustness	**5**	**Tech Form 2.A** Detailed write-up covering all the points as mentioned in the point system

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
			& flexibility suggested = **1 mark** • Comprehensiveness of detailed Bill of material of all the components in unpriced BOM (e.g. software, hardware, etc.) along with their quantities = **1 mark**		
B	**Proposed Approach for SLA Management**	Evaluation Committee will evaluate whether the implementation methodology is in line with the requirement. The important parameters being:- • Plan for meeting the SLA norms. • Redundancy and failover options. • Spare equipment availability plans	In this section, the responding firm should: • Explain the understanding of the project requirements, highlight the expected support from the State, approach to the services, SLA management methodology, methodology for carrying out the activities for expected output **= 2 marks** • Highlight the associated risks / problems and plans for mitigation and explain the technical approach it would adopt to address them = **1 mark** • Explain the methodologies the responding firm proposes to adopt and highlight the compatibility of those methodologies with the proposed approach = **1 mark** • Planning and Building Infrastructure	**5**	**Tech Form 2.B** Detailed write-up covering all the points as mentioned in the point system

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
			(assessment, design, integration / migration of existing Portal infrastructure) = **1 mark**		
C	**Training**	Proposed Training and Change Management plan description to be looked into	The Evaluation will be based on: • Proposed Training Schedule = **3 marks** • Agree to train 5% over and above the = **2 marks** *(The same shall also be reflected in the contract)*	**5**	**Tech Form 2.C** Week-wise training schedule Concurrence-cum-declaration to train more than 5% of the requirement (without any compromise in quality) as specified in the point system
D	**Formation/Location of Helpdesk & other manpower support**	Proposed methodology of formation of the manpower support team. Operating and Maintaining Infrastructure	The Evaluation will be based on • Agree to resolve "Helpdesk support – Medium/ Low priority calls" ≥50% of the current mandated SLA = **3 marks** • Agree to resolve "Helpdesk support – Medium/ Low priority calls" <50% to ≥25% of the current mandated SLA = 2 **marks** *(The same shall also be reflected in the contract)*	**5**	**Tech Form 2.D** Concurrence-cum-declaration to meet SLAs (without any compromise in quality)
3	**Proposed Approach & Methodology**			**15**	
A	**Project Understanding**	Key Understanding of background & project requirements	• Detailed Understanding of • TCMPF (Aavin) **- 1 mark**	**3**	**Tech Form 3.A** Detailed write-up

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
			• Envisaged Objective & Outcomes of this project - **1 mark** • Field Visit findings on existing setup & Understanding of legacy solutions- **1 mark**		covering all the points as mentioned in the point system
B	**Project Management**	The overall approach to be looked into	Approach clearly highlighting • Key Project Assumptions – **1 mark** • Phase-wise Strategy for milestone specified in each phase - **1 mark** Adopted by the responding firm to implement the project to meet the timelines.	**2**	**Tech Form 3.B** Detailed write-up covering all the points as mentioned in the point system
C	**Detailed Week-wise Work Plan**	The description and quality of the work plan to be looked into.	• Evaluation will be based on the detailed Project Plan including day wise, week wise activities with Work Breakdown Structures, Project estimates, milestones etc. – **1.5 marks** • Implementation Timelines o Agree to achieve the implementation in less 75% of the implementation time-frame as per the specified timelines = **3.5 marks** o Agree to achieve the implementation in 90% to 75% of the implementation time-frame as per the	**5**	**Tech Form 3.C** Concurrence-cum-declaration to achieve implementation (without any compromise in quality) as specified in the point system

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
			specified timelines = **2 marks** *(The same shall also be reflected in the contract)*		
D	**Technical Presentation**	Presentation by Proposed Team Members	The bidder shall demonstrate the following and Evaluation will be based as following parameters (individual parametric weightages would be decided by the technical committee) • Prototype Workflow application demo including UI and UX for the application • Dash boarding & MIS Reporting • Application Software USP • DR operations & BCP process • Strategy IT Security & Performance testing endurance approach to be borne by SI • SMS & Mobile interface & operations • Strategic approach Manpower Deployment	**5**	**Tech Form 3.D** Detailed write-up covering all the points as mentioned in the point system
4	**Resource Deployment[#]**			**15**	
A	**Project Director**	**None**		**0**	Duly filled **Tech Form 4** and CV format for each resource proposed to be as per **Tech Form 5**
B	**Project Manager (SPOC to deployed FT for the**	**Compliance to** 1. Qualification		**3**	CV format for each resource proposed to be

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
	project)	2. Relevant years of Experience 3. Certification 4. Tamil Proficiency			as per **Tech Form 5**
C	**Application Development Manager**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**
D	**Configuration / Release Manager**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**
E	**Business Analyst / Requirement Gathering Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**
F	**Dairy Domain Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**
G	**Information Architect / Data Design and Modelling Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**
H	**UI / UX Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached
I	**Training / Capacity Building / Organizational Change Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**
J	**Network Specialist**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**
	Total Points			**100**	

#The SI shall ensure that the resources proposed in the response proposal to the RFP should only be deployed for the IDMS project implementation. In case of any unforeseen circumstance and reasons beyond the control of the bidding organization such as, employee resignation, medical challenges, etc. the department shall consider a replacement of resource with an equivalent or better qualification. If the proposed change is not up to the expectation of the department then a penalty as specified in the SLA shall be levied.

4.19.5. Evaluation of CVs of Key Resources

a) Project Manager (SPOC to be deployed FT at Aavin Head Office for the project)

S. No.	Description
1	Educational Qualification: B. Tech. / B.E. / M.C.A. and M.B.A.
2	Relevant year of experience: 15 years or more (full marks) and less than 15 years (pro-rata marks)
3	Valid PMP/PRINCE Certification
4	Tamil Language Speaking, Reading & Writing
5	Experience of leading at least 4 large web-based integrated solutions

b) Application Development Manager

S. No.	Description
1	Educational Qualification: B. Tech. / B.E. / M.C.A.
2	Relevant year of experience: 10 years or more (full marks) and less than 10 years (pro-rata marks)
3	Valid OEM Certification for Software Application
4	At least 2 project experience in large web-based integrated solutions for any sector
5	Preferred to have ability to Read Write & Speak in Tamil (local language)

c) Configuration / Release Manager

S. No.	Description
1	Educational Qualification: B. Tech. / B.E. / M.C.A.
2	Relevant year of experience: 10 years more (full marks) and less than 10 years (pro-rata marks)
3	OEM Certification (relevant to the solution proposed)
4	At least 2 project experience in large web-based integrated solutions for any sector
5	Preferred to have ability to Read Write & Speak in Tamil (local language)

d) Business Analyst / Requirement Gathering Expert

S. No.	Description
1	Educational Qualification: B. Tech. / B.E. / M.C.A.
2	Relevant year of experience: 15 years more (full marks) and less than 15 years (pro-rata marks)
3	OEM Certification for Business Analysis is preferred.
4	At least 2 project experience in large web-based integrated solutions for any sector
5	Preferred to have ability to Read Write & Speak in Tamil (local language)

e) Dairy Domain Expert

S. No.	Description
1	Educational Qualification: Post Graduate Degree
2	Relevant year of experience: 10 years more (full marks) and less than 10 years (pro-rata marks)
3	At least 2 project experience in large web-based integrated solutions for dairy sector
4	Preferred to have ability to Read Write & Speak in Tamil (local language). Preferred to have degree in Dairy / Agriculture / Co-operatives

f) Information Architect / Data Design and Modelling Expert

S. No.	Description
1	Educational Qualification: B. Tech. / B.E. / M.C.A.
2	Relevant year of experience: 10 years more (full marks) and less than 10 years (pro-rata marks)
3	At least 2 project experience in large web-based integrated solutions for any sector
4	Preferred to have ability to Read Write & Speak in Tamil (local language)

g) UI / UX Expert

S. No.	Description
1	Educational Qualification: B. Tech. / B.E. / M.C.A.
2	Should have experience with UI and UX designs including flat design and design for smaller devices.
3	Relevant year of experience: 10 years more (full marks) and less than 10 years (pro-rata marks)
4	At least 2 project experience in large web-based integrated solutions for any sector
5	Preferred to have ability to Read Write & Speak in Tamil (local language)

h) Network Specialist

S. No.	Description
1	Educational Qualification: B. Tech. / B.E. / M.C.A.
2	Should have relevant certifications as CCNA / CCNP, etc.
3	Relevant year of experience: 10 years more (full marks) and less than 10 years (pro-rata marks)
4	At least 2 project experience in large web-based integrated solutions for any sector
5	Preferred to have ability to Read Write & Speak in Tamil (local language)

i) Training / Capacity Building / Organizational Change Expert

S. No.	Description
1	Educational Qualification: Post Graduate degree
2	Relevant year of experience: 10 years more (full marks) and less than 10 years (pro-rata marks)
3	At least 2 project experience in large MIS / Systems Integration project dealing with Change Management and Training
4	Preferred to have ability to Read Write & Speak in Tamil (local language)

The Bidders who score 70% or more in the Technical Bid will be called as "**Technically Qualified Bidders**" and their proposals alone will be taken for further evaluation.

The technically qualified Bidders alone will be informed of the date of opening of the Commercial Bid. The Commercial Bids of technically qualified Bidders will alone be opened and evaluated. The decision of TCMPF (Aavin) will be final in this regard.

4.19.6. Evaluation of Commercial Bids

The Commercial Bid evaluation will be carried out as stated below:

- Arithmetical errors will be rectified on the following basis:
    - If there is any discrepancy between unit price and the total price i.e. obtained by multiplying the unit price and the quantity, the unit price shall prevail and the total price shall be corrected and will be taken for evaluation.
    - If there is an arithmetic error in the commercial bid calculations the TCMPF (Aavin) shall correct the same.
    - If there is a discrepancy in the prices quoted in words and figures, the lower of the two shall be considered.
- The Commercial Bid evaluation shall include all central duties such as customs duty and central excise duty and sales tax as a part of the price as detailed below:
    - In evaluation of the price of an imported item, the price shall be determined inclusive of the customs duty.
    - In evaluation of the prices of articles that are subject to excise duty, the price shall be determined inclusive of such excise duty.
    - Against this tender where all the Bidders are from within the State of Tamil Nadu or where all the Bidders are from outside the State of Tamil Nadu, the sales tax shall be included for the evaluation of the price.
    - Against this tender where the Bidders are both from the State of Tamil Nadu as well as from outside the State of Tamil Nadu, the value added tax levied under Tamil Nadu Value Added Tax Act, 2006 shall be excluded for the evaluation of the price.

4.20. Final Evaluation of Bid

The bidder with the **Lowest (L1)** VALUE OF COMMERCIAL BID will be declared as the "**Successful Bidder"**.

4.21. Negotiations with the successful Bidder

As per the evaluation criteria specified above in this Tender Document, selection of the Successful Bidder will be made and such Bidder will be called for negotiations for improvement of scope of work and commercial terms. TCMPF (Aavin) reserves the right to negotiate with the Bidder.

While negotiating the following aspects are to be considered:

- To improve the Service Level Agreement (SLA) and the Quality of Services (QoS).
- Further reduction in the offer submitted.
- Advancing the commissioning schedule.
- To improve the quantity.
- Scope of training offered.
- Others as may be brought out to the notice of Aavin.

4.22. Post Qualification and Award Criteria

- An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event; the TCMPF (Aavin) will proceed to the next best evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.
- The Contract will be awarded to the successful bidder whose **Commercial bid** is the **lowest (L1)**

4.23. Right to Vary Scope of Contract at the time of Award

- The TCMPF (Aavin) may at any time, by a written order given to the Bidder, make changes to the scope of the Contract as specified on mutually agreeable basis.
- If any such change causes an increase or decrease in the cost of, or the time required for the Bidder's performance of any part of the work under the Contract, whether changed or not changed by the order, an equitable adjustment shall be made in the Contract Value or time schedule, or both, and the Contract shall accordingly be amended. Any claims by the Bidder for adjustment under this Clause must be asserted within thirty (30) days from the date of the Bidder's receipt of the TCMPF (Aavin) changed order.

4.24. Right to Accept Any Bid and to Reject Any or All Bids

- The TCMPF (Aavin) reserves the right to accept any bid, and to annul the Tender process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidders or any obligation to inform the affected Bidders of the grounds for the TCMPF (Aavin) action.
- The TN TCMPF (Aavin) reserves the right to negotiate the commercials with the selected Bidder.

4.25. Notification of Award - Letter of Acceptance

- Prior to the expiration of the period of bid validity, the TCMPF (AAVIN) will notify the successful Bidder in writing by sending a Letter of Acceptance (LOA) using registered letter or by fax/e-mail, to be confirmed in writing by registered letter, that its bid has been accepted.
- The Implementation Schedule will commence from the date of issue of LOA.
- The notification of award will constitute the formation of the Contract.
- Upon the successful Bidder's furnishing of Bank Guarantee for contract performance the TCMPF (Aavin) may notify unsuccessful Bidders and will discharge their EMD

4.26. Forfeiture of Earnest Money Deposit

If the Successful Bidder fails to act according to the tender conditions or backs out after his tender has been accepted, his Earnest Money Deposit will be forfeited to TCMPF (AAVIN).

4.27. Signing of Contract

- At the same time as the TCMPF (AAVIN) notifies the successful Bidder that its bid has been accepted, the TCMPF (AAVIN) will send the Bidders the Proforma for Contract provided in the Tender Document, incorporating all agreements between the parties.

- Within 7 days of receipt of the Contract, the successful Bidder shall sign and date the Contract and return it to the TCMPF (AAVIN). If the same is not executed within seven working days, the Earnest Money Deposit (EMD) of the Bidder may be forfeited and their tender may be held as non – responsive and liable for rejection as per the discretion of Aavin.

4.28. Release of Work Order

After the execution of the agreements specified in the Tender Document and after receipt of the Performance Bank Guarantee, TCMPF (AAVIN) will release the formal Work Order to the Successful Bidder.

4.29. Performance Guarantee

- Within 15 days of the receipt of LOA from the TCMPF (Aavin), the successful Bidder shall furnish the performance security in accordance with the Terms & Conditions of Contract, in the form of Bank Guarantee of 10% of the total contract value as prescribed format in Volume II of this RFP.
- Earnest Money Deposit of the Successful Bidder shall be adjusted towards the value of Performance Guarantee to be furnished.
- Failure of the successful Bidder to comply with the requirement of this Clause shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD.

4.30. Contract Period

The Contract will be valid during the implementation period till Go-Live and the operation and maintenance period of two years after Go-Live.

4.31. Rejection Criteria

The right of final acceptance of the tender is entirely vested with the TCMPF (AAVIN) who reserves the right to accept or reject any or all of the tenders in full or in parts without assigning any reason whatsoever. After acceptance of the tender by TCMPF (AAVIN), the Bidder should have no right to withdraw his tender, or claim higher price. The tender approving authority may also reject all the tenders for reasons such as change in scope of work, new technologies, and lack of anticipated financial resources, court orders, accidents or calamities and other unforeseen circumstances.

Besides other conditions and terms highlighted in the tender document, bids may be rejected under following circumstances:

4.31.1. General Rejection Criteria

- Bids submitted without EMD or with inadequate EMD
- Conditional Bids
- If the information provided by the Bidder is found to be incorrect / misleading at any stage / time during the Tendering Process
- Any effort on the part of a Bidder to influence the bid evaluation, bid comparison or contract award decisions

- Bids received by the TCMPF (AAVIN), after the last date prescribed for receipt of bids.
- Bids without signature of person (s) duly authorized on crucial documents of the bids. Crucial documents will include the Letters, Certificates, Declarations, etc. The determination whether the document is crucial or not shall be performed by the TCMPF.
- Bids without power of authorization and any other document consisting of adequate proof of the ability of the signatory to bind the Bidder.

4.31.2. Technical Rejection Criteria

- Technical Bid containing commercial bid details.
- Revelation of Prices in any form or by any reason before opening the Commercial Bid
- Failure to furnish all information required by the Tender Document or submission of a bid not substantially responsive to the Tender Document in every respect.
- Bidders not quoting for the complete scope of Work as indicated in the Tender documents, addendum (if any) and any subsequent information given to the Bidder.
- Bidders not complying with the Technical and General Terms and conditions as stated in the Tender Documents.
- The Bidder not confirming unconditional acceptance of full responsibility of providing services in accordance with the Scope of work and Service Level Agreements of this tender.
- If the bid does not confirm to the timelines indicated in the bid.

4.31.3. Commercial Rejection Criteria

- Incomplete Commercial Bid.
- Commercial Bids that do not conform to the Tender's Commercial Bid format.
- Total price quoted by the Bidder does not include all statutory taxes and levies applicable

4.32. Concessions permissible under statutes

Bidder, while quoting against this tender, must take cognizance of all concessions permissible under the statutes including the benefit under Central Sales Tax Act, 1956, failing which it will have to bear extra cost where Bidder does not avail concessional rates of levies like customs duty, excise duty, sales tax, etc. TCMPF (AAVIN) will not take responsibility towards this. However, TCMPF (AAVIN) may provide necessary assistance, wherever possible, in this regard.

4.33. Income tax liability

The bidder will have to bear all Income Tax liability both corporate, service and personal tax.

4.34. Intellectual Property Rights

- The bidder/supplier shall identify TCMPF / Aavin against all third party claims of infringement of patent, copyright, trademark and trade designs arising from use of the goods or any part thereof in India.

- The Bidder shall indemnify the Aavin against all third-party claims of infringement of patent, trademark or industrial design and intellectual property rights arising from the use of the Goods or any part thereof.

5. Project Profile

5.1. Brief about the Organization

5.1.1. Evaluation and Structural set-up

The Tamil Nadu Cooperative Milk Producers' Federation Limited (TCMPF) is an apex cooperative society registered and functioning under the Tamil Nadu Cooperative Societies Act, 1983.

The Tamil Nadu Cooperative Milk Producers' Federation Limited has been registered as a cooperative Federation on 15.12.1980 and commenced its commercial functioning from 1.2.1981, by taking over the activities of Tamil Nadu Dairy Development Corporation Limited, existed under the Companies Act, 1956 as a Government company and subsequently wound-up.

TCMPF is placed in the apex position in the three-tier Dairy Cooperative set up in the "Amul" (Anand) pattern. The three stages in the three tier set up are:

- At the bottom stage there are Milk Producers' Cooperative Societies which are called Primary Societies. Milk Producers' Cooperative Societies (MPCS) function at village level and the members of MPCS are individual Dairy farmers and the share capital of MPCS is contributed by individual Dairy farmers who are members.

- At the Districts level there are 17 District Cooperative Milk Producers' Unions which are called Central Societies. Each District Cooperative Milk Producers' Union functions with one or more revenue Districts as area of operation. The members of the District Cooperative Milk Producers' Unions are the village level primary Milk Producers' Cooperative Societies. The Share Capital of the District Cooperative Milk Producers' Unions is contributed by the MPCS. In the cases of certain District Coop Milk Producers' Unions the Government of Tamil Nadu also provided Share Capital assistance.

- At the state level the Tamil Nadu Cooperative Milk Producers' Federation Limited is functioning as an apex society affiliating the 17 District Coop Milk Producers' Unions. The members of the TCMPF are the 17 District Coop Milk Producers' Unions. The Share Capital of the TCMPF is contributed by the 17 District Coop Milk Producers' Unions and the Government of Tamil Nadu.

- The village level primary societies, District level Unions and state level federation put together are collectively called Dairy Co-operative societies.

- As per Section 39 of the Tamil Nadu Cooperative Act, 1983 (TNCS Act), upon registration, TCMPF Ltd., District Unions and Primary Societies acquire the status of body corporate with perpetual succession and a common seal with power to hold property, to enter into contracts, to institute and defend suits and other legal proceedings and to do all things necessary for the purposes for which it is constituted.

5.1.2. Commercial Activities of Dairy Cooperative Societies

- Purchase/pool milk from members.
- Chill/pasteurise and store milk to prevent from inherent spoilage and to increase its shelf-life.
- Prepare/pack various types of milk for sale to consumers
- Produce prime milk products like Cream, Butter, Ghee, Skim Milk Powder, curd, Yogurt, Cheese etc.,
- Produce other products like ice cream, Khova, Milk Sweets etc.,
- Market milk and products manufactured within and outside Tamil Nadu.
- Manufacture Cattle Feed and distribute among Dairy Farmers.
- Carry out Artificial semen extraction and insemination activities.
- Carry out Fodder cultivation/distribution activities.

5.1.3. Administrative Department

The registration and statutory administrative control of primary societies, District Unions & TCMPF is vested with the Dairy Development Department of the Government of Tamil Nadu. Commissioner for Milk Production and Dairy Development is the head of Dairy Development Department and the Functional Registrar under the Tamil Nadu Cooperative Societies Act, 1983.

5.2. Objectives of Integrated Dairy Management System

The goal of implementing Integrated Dairy Management System (IDMS) is to computerize the Tamil Nadu Cooperative Milk Producers' Federation (TCMPF) and operations of the Department, thereby improving the operational efficiency and ensuring timely service delivery to Milk Producers, Consumers and suppliers etc. This would help in elevating the service delivery standards and internal process level efficiency of the Department and to proliferate the benefits of IT enabled Governance to all the four federation units located in different geographies and also to its various interfacing Department's operations. Further this would enable both the consumers of urban and producers of rural areas to avail the portfolio of services provided by the organization through ICT initiatives. This is also aimed to develop IDMS as a productized solution which will be readily replicable or deployed in other States as well.

The major objective of IDMS application is to migrate to an end-to-end completely web-based environment in order to improve quality of service through optimized services delivery by the department to the stakeholders and warrant for timely delivery of the payment to Milk Producers and milk products to consumers. The outcome of implementing an integrated solution is to address the following purposes of TCMPF:

- To harness IT to make the operations of the Department more service oriented stakeholders
- Build in transparency and accountability in the system to elevate the standards
- Minimization of Turnaround Time (TAT) of services
- Introduction of multiple service delivery options, leveraging Information Technology
- To remove various systemic deficiencies in the manual legacy system of operation
- Leverage IT for expeditious receipt and accounting of money in the Government
- Ensuring proper budgeting of receipts and proper monitoring of ways and means

- Saving time in the process of accounts reconciliation through comprehensive automation, reducing human intervention to the optimal levels
- Demystify and reengineer few non value adding areas and optimizing efficiency, comprehensive business process reengineering
- Creation of process level interface with other co-functional units like different Departments, RBI, and SBI etc.
- Development of a robust security infrastructure to maintain safety, authenticity confidentiality of transactions
- Creation of an Institutional Framework for e-Governance in the Department
- Simplification and streamlining of procedures through process re-engineering
- Provide timely MIS for effective decision making.
- Transparent & citizen friendly environment
- Business Intelligent application with appropriate controls against vulnerability
- Centralization of database
- Paperless & hassle-free operations

Key qualitative outputs and outcomes include:

- Enhancing quality of citizen services.
- Reducing costs.
- Continuous process improvement, and
- Leadership

Key quantitative outputs and outcomes include:

- Online milk card issuance procedures leads to increase in the volume of business
- Increase in the number of citizens using the e-payment facility for payment and grievance redressal.
- Data getting updated from 2800 societies in real time, verified through daily MIS reports.
- Number of farmers in the societies supplying milk should tally with the number of payment transactions.

5.3. Brief Description about the product/technology/prototype to be transferred

Under Integrated Dairy Management System (IDMS) it is aimed to develop a productized Information Technology Solution, with a purpose to deliver services to citizens with minimum turnaround time through a composite computerized software, for application in the three-tier Dairy Cooperatives usable at levels from the farmer to the end consumer, with initial implementation in the Federation and four District Unions (Salem, Erode, Dharmapuri and Madurai) and primary societies affiliated to the said four District Unions and replicable or deployable in other primary societies and District Unions in Tamil Nadu and other States.

The solution to be developed under IDMS should be according to the requirements and guidelines contained in the "Application Development and Re-Engineering Guidelines" published by the Department of Electronics & Information Technology (DeitY), Government of India, downloadable from DeITY's website

link"http://deity.gov.in/sites/upload_files/dit/files/Application_Development_Re-Engineering_Guidelines.pdf"

Relevant excerpts from the "Application Development and Re-Engineering guidelines" are reproduced below:

5.3.1. Need for Software Development & Re-Engineering Guidelines

The basic need for Software Development and Re-engineering Guidelines is to ensure development of Common Application Software (CAS) which can be configured as per different states / departments requirements without the need of modifying the core code of the application for a faster deployment so that time, effort and costs in developing applications are saved and to obviate duplication of efforts. It is therefore imperative that applications are developed in conformity to guidelines that makes them standardized and compatible for hosting and running across states. This need has translated in the conceptualization, development and roll-out of productized cloud enabled application which can be centrally run & hosted and are available to states for configuring them as per their relevant processes with minimal customization for rolling out the services in shortest time possible. It is envisioned that an application which is centrally run as a SAAS is easy to roll out to all interested parties at the same time and therefore such application's architecture and design should be compliant to common minimum practices / considerations that will convert it to standard product.

5.3.2. Evolution of e-Gov App store

DeITY has published Application Development and Re-engineering guidelines available at diety.gov.in that the System Integrator is required to adhere to.

The productized and cloud enabled application for states / departments will be made available on the e-Gov App store. The e-Gov App store is a national level common repository of customizable and configurable applications, components and web services that can be re-used by various government agencies/departments at Centre and States, with the vision to accelerate delivery of e-services as envisaged under NeGP and optimizing the ICT spending of the government with the following objectives:

- Speeding up the development and deployment of e-Gov applications
- Easy replication of successful applications across States
- Avoid duplication of effort and cost in development of similar applications
- Ensure availability of certified applications following common standards at one place

The key benefit for Stakeholders is that they need not reinvent the wheel and an application which is successfully running in another state can be made available to them expeditiously with requisite customization. Core and common applications that have high demand and are replicable across the central and state levels are the likely candidates for the e-Gov App store, which shall be hosted on the National Cloud. The e-Gov App store will include the setting up of a common platform to host and run applications (developed by government agencies or private players) at National Clouds under Meghraj, which are easily customizable and configurable for reuse by various government agencies or departments at the central and state levels without investing effort in the development of such applications.

Application Development and Re-Engineering guidelines also contains chapters on the following headings with the expectations and explanations of DeITY under each heading:

- Software Development & Re-Engineering Guidelines
  - Solution Architecture
  - Standards Adoption & Solution Engineering
  - Integration & Interoperability
  - Quality Certification, Release Management & Documentation
  - Solution Sizing & Scalability
  - Language & Interface
  - Legacy Integration – Digitization & Migration
  - Intellectual Property Rights (for Centre & State owned applications)
- Cloud Enablement of Applications
  - Application Migration to Cloud
  - Software as a Service Characteristics
- Application Self-Assessment Checklist

5.4. Current State of IT Infrastructure at TCMPF (Aavin)

Over multiple years as per the needs of different department's business processes, customized systems were developed at Aavin. These systems evolved over the years but the information is available in silos and not in a centralized place. This is leading to duplication of efforts in operations of various departments as well as making it difficult to give organization-wide picture from a single system.

Aavin has implemented applications on a "piece-meal" approach and has no facility to integrate the activities that are being carried out across the functional tiers. Therefore there are challenges in account management, accounting of sales, accounting time loss, loss of productivity etc. The applications that are being used currently are listed below along with their functions and platforms that are built and the user-base for the same.

In order to have a seamless flow of information between different departments and functions, for better control of the processes and for leveraging advances in IT systems for business gains, Aavin has decided to implement an integrated system covering various modules. The list of IT infrastructure available across locations:

5.4.1. Existing Hardware

#	Federation Units	Desktop Computer	Laptop	Printer	Server	Switch	Grand Total
1.	Ambattur Dairy	9					9
2.	Central Dairy, Madhavaram	9		11			20
3.	Head Office, Madhavaram	45	6	29	1	4	85
4.	JMD Office, Ambattur	11					11
5.	Marketing Unit, Nandanam	48			2		50
6.	Milk Dairy, Sholinganallur	9		8	1		18
7.	Transport Unit, Madhavaram	4	1	3			8
	Grand Total	**135**	**7**	**51**	**4**	**4**	**201**

#	Unions	Desktop Computer	Laptop	Printer	Switch	Grand Total
1.	District Union, Erode	26				26
2.	District Union, Dharmapuri	14	1	14	1	30
3.	District Union, Madurai	51	2	39		92
4.	District Union, Salem	38	2	38		78
	Grand Total	**129**	**5**	**91**	**1**	**226**

5.4.2. Existing Software/Applications

#	Type of Software	Name of Product
1.	Middleware	FoxPro Database File
2.	Mail/Messaging	SMS for Milk Society
3.	Database	FoxPro
4.	Database	Dbf file
5.	Database	MS-Access
6.	Application Software	FoxPro
7.	Application Software	Clipper, SQL Query
8.	Application Software	RMRD Software
9.	Application Software	Milk Bill Software
10.	Application Software	Pay Bill Software
11.	Application Software	Payroll, Milk Bill, FAP
12.	Application Software	Milk Reception Software
13.	Any Other	Novel

5.4.3. Existing Network Infrastructure

#	Location	Type of Connection	Speed of Network
1.	Head Office, Madhavaram	LAN	NA
2.	Head Office, Madhavaram	Broadband	NA
3.	Marketing Unit, Nandanam	Broadband	100 Kbps
4.	Milk Dairy, Sholinganallur	LAN	100 Kbps
5.	District Union, Erode	Broadband	100 Kbps
6.	District Union, Erode	Broadband	512 Kbps
7.	District Union, Krishnagiri	LAN	10/100 Kbps
8.	District Union, Krishnagiri	BSNL Data Card Modem	3.2 Mbps
9.	District Union, Madurai	LAN	1 Mbps
10.	District Union, Salem	Broadband	4 mbps
11.	District Union, Salem	Broadband	512 kbps
12.	District Union, Salem	Broadband	2 mbps

6. Scope of Work

This tender calls for bids for selection of System Integrator (SI) to Design, Develop, Test Implement, Supply Hardware, Operate, Maintain & Manage the end-to-end complete integration of Tamil Nadu Cooperative Milk Producers' Federation Ltd.

This Scope of work of this tender consists of two phases (viz Phase I & Phase II) as mentioned below:

Phase - I:

The scope against this phase work covers the **Design, Develop, Test & Implement the end-to-end IDMS Application** as per the scope of work, quantity & specifications, schedules & requirements as specified in the tender. The developed applications would be first tested & implemented as a pilot. On successful implementation of the pilot application, then the state-wide roll-out would be commenced. Go-Live commences from the date of successful State-Wide Roll Out of the IDMS application.

Phase - II:

The scope against this phase covers the Operation, Maintenance & Management of the end-to-end IDMS application on 24x7 basis as per the requirements of the tender and also as per the Service Level Agreement (SLA) over a period of two years from the date of Go-Live. The scope of phase II also includes manpower outsourcing and providing connectivity to all the locations.

Applicability of Tamil Nadu Transparency in Tender Act, 1998:

This tender will be governed by the Tamil Nadu transparency in Tender Act, 1998 with the Tamil Nadu Transparency in Tender Rules 2000 as amended from time to time. (http://www.tn.gov.in/gorders/fin446e.htm)

The Scope of the System Integrator (SI) is covered under two phases:

1. Implementation - Phase I
2. Operations & Maintenance - Phase II

I. The first phase .*viz Implementation Phase* broadly covers the following scope:

1. Design, Development, of IDMS Application Software
2. Application Implementation, Testing & Acceptance
3. Data Centre and Disaster Recovery Hardware Installation and Commissioning
4. User Hardware Supply, Installation & Commissioning
5. Site Preparation at all locations
6. Data digitization and Data migration
7. Centralized Help Desk
8. Connectivity
9. Change management & Capacity Building

10. Security & Performance Audit
11. Integration with Mobile Service gateway
12. Pilot Implementation
13. IDMS Application Roll-Out (In specified locations)
14. Stabilization Period
15. Go-Live

II. The Operations & Maintenance Phase scope covers the maintenance of all components of the project for a period of 2 years (extendable by another 3 years or part thereof at the discretion of TCMPF) post Go-Live. The broad scope are as follows:

1. IDMS Application Operate, Maintain & Manage
2. Facility Management Services (FMS)
3. Operation & Maintenance
4. SDC and DRC management & maintenance
5. Periodic Security and Performance Testing & conformance
6. SLA monitoring
7. O&M Phase Extension and Knowledge Transfer
8. Scalability, software upgrades
9. High availability of application services

7. Scope of Work - Phase I

This Implementation phase starts from the date of issue of LOA to the SI till the date of "Go-Live". The SI has to design, develop, test, install, operate, maintain and manage the Integrated Dairy Management System in the State as per the detailed technical specifications and schedule of requirements given in this tender.

The SI has to carry out the following activities during Phase-I of IDMS project:

- The SI is required to supply and commission the User Hardware as specified.
- The SI has to supply & commission the necessary Compute & Support Infrastructure as per the RFP requirements so that web-based Application can be made operational
- The SI shall also ensure the Application developed by the SI is free from vulnerabilities
- The SI is expected to meet the Service levels mentioned in the RFP in the subsequent sections
- The SI shall facilitate the respective sections in sharing the data template / structures in which the historic manual data needs to be digitised, so that there are no challenges during data migration. The legacy databases shall be migrated to the envisaged IDMS Application.
- The SI shall also carry out the necessary Capacity Building & Change management process for effective roll-out of the solution across locations of TCMPF. The respective sections/units of TCMPF shall identify Change agents who shall drive the change & training needs for selected audience across departments. SI shall obtain sign-off letter from the respective SMEs of sections.
- SI shall ensure the Stabilisation and Monitoring of IDMS Application & support infrastructure during Stabilisation & Trail-Run phase
- SI shall prepare the Roll out Strategy plan to carry out the successful roll-out of the IDMS application in the locations mentioned in the subsequent sections of this RFP; the Go-Live shall be declared after the successful meeting of SLA/performance metrics during the Stabilisation Period. On successful completion of Pilot Implementation, roll out shall commence
- SI shall provide and maintain a mail server for TCMPF (Aavin) employees
- The SI has to submit stage-wise Reports and it should be done strictly in accordance with the scope of work. If the Implementation is not effected as per tender, TCMPF (AAVIN) has the right to cancel the order and to take any such action which will be deemed fit in such circumstances.

7.1. Designing & Development of IDMS Application software

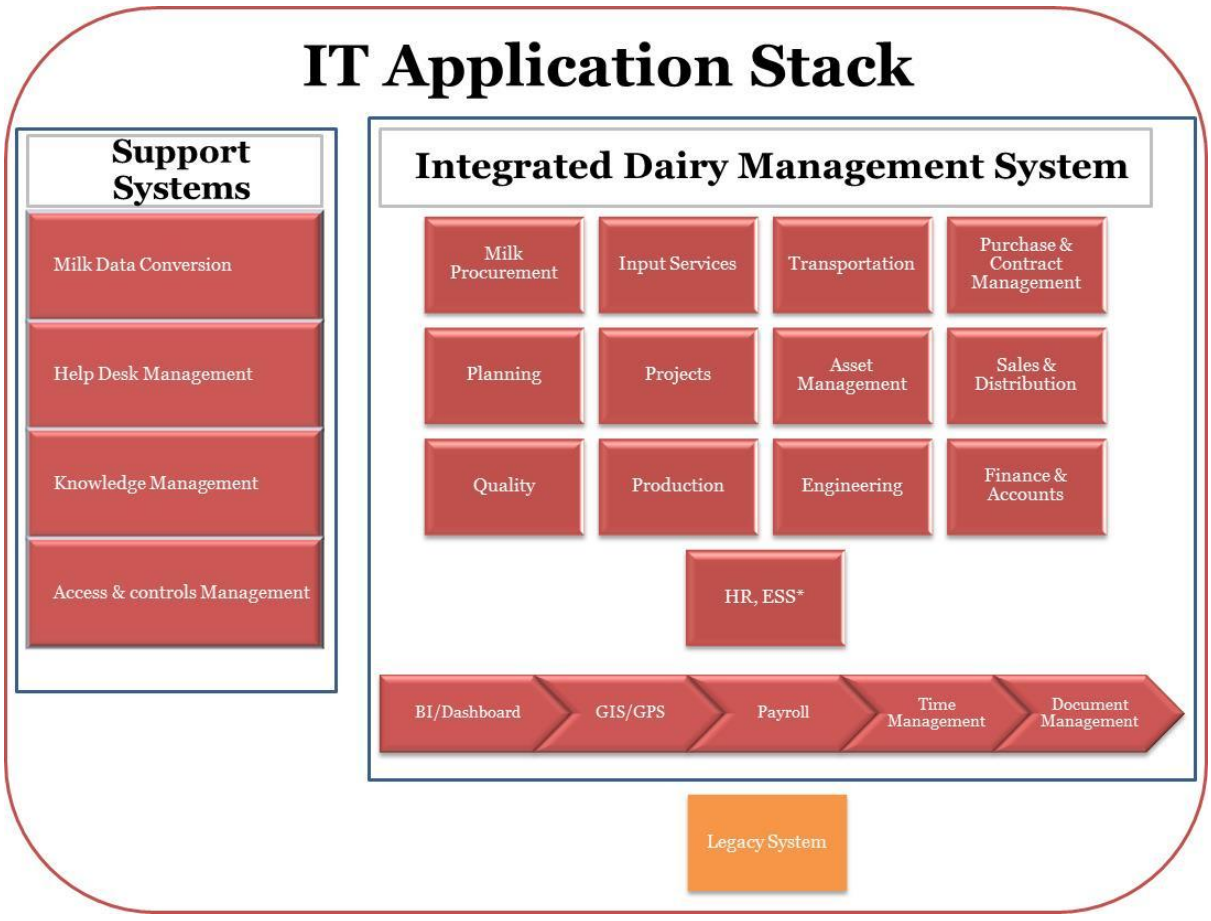
System Study and Design of IDMS Solution

The SI shall carry out a detailed systems study to prepare / refine the Functional Requirements Specifications (FRS) and formulate the **System and Software Requirements Specifications documents incorporating the functional specifications and standards provided in the FRS** which shall form the basis for implementation of the solution by the SI**.** The solution implemented should cover all the requirements as specified in the To-Be Design and the Functional Requirement Specification Document.

It is of prime importance for TCMPF to have an integrated software application for its end to end operations. The envisaged Integrated Dairy Management System (IDMS) will have different functional modules, catering to the business requirements and functions as captured in the **To-be design and Functional Requirement Specifications (FRS)** and the modules are depicted below

which is to be developed by the SI. Along with the core modules of the integrated software IDMS there will be multiple other supporting modules /sub-systems as shown below. **The details of the functionality of the each of these sub-systems and modules are described in the To-be & FRS which are provided as an additional document to this RFP**. The SI will be provided a copy of the As Is Report which can be used as a reference for this assignment.

In addition, the SI is required to provide implementation services to port the citizen facing part of the application to the Common Service Centre (CSC) as required by the Government of Tamil Nadu. This is especially applicable in the case of "Card-Sales" which are sold to citizens. Card-Sales system as developed by the SI as specified in the Functional Requirement Specifications shall be aimed to be made available as widely as possible.



The application shall be designed as a work-flow, web-based, 3-tier architecture. The SI shall prepare:

- A comprehensive High Level System Design (HLSD) Document: The HLSD document shall contain Data Flow drawings, proposed system architecture, Database architecture including clustering, mirroring, back up strategies, defining data structures, data dictionary, etc. as per the standard laid down by government of India/Tamil Nadu.
- A comprehensive Low Level Design (LLD) document: The LLD should detail each and every module of the system with the functional logic involved.
- Relevant System Requirement Specification (SRS) based on the Envisaged process & Functional Requirement Specifications document attached in this Tender. The SRS shall be reviewed by the nodal officers of the Project Implementation Committee (PIC) and other members and persons as

the Client may deem fit; based on their recommendation, PIC would approve the SRS with which the SI would develop the application.

- Data Architecture detailing interface and integration architecture, etc. The SI shall deploy adequate manpower with appropriate skill sets to ensure robust application development. The SI shall also deploy required hardware for design, development & testing of the IDMS Application.
- The proposed system should be capable of interfacing with external systems/ agencies in order to allow for exchange of data and communication with those systems. The following is an indicative list of external systems / agencies that the proposed system should be capable of interfacing with:
    - UID
    - State Portal and SSDG
    - MSDG – Mobile Service Delivery Gateway
    - RBI – for verification of Bank details
    - Income Tax – For verification of PAN related documents.
    - Payment Gateway
    - CSC and other citizen service delivery projects such as e-District
- The SI should develop any additional modules required by the department arising due to any change in the existing Act and rules without any additional cost.
- The application developed by SI should compatible with various mobile platforms also.
- The Application software prepared by the SI should have a bi-lingual interface (English and Tamil)

7.2. Application Implementation, Testing & Acceptance

The System Integrator should **develop a TCMPF (AAVIN) IDMS Application Prototype** to simulate certain aspects of the Aavin. This activity should be done in parallel and should be showcased to the TCMPF (AAVIN) for any feedback and approval. This activity should help in getting valuable feedback in developing the final application.

The module-wise application would be developed & tested by the SI's Testing team. SI should carryout Integration Testing, System Testing and Performance & Load testing and provides the results for review by the TCMPF (AAVIN). After successful completion of the unit testing, the application shall be tested for integration & User Acceptance testing at the pilot locations.

The System Integrator will develop the UAT Test plan and a detailed User acceptance procedure. The same would be reviewed and agreed by the TCMPF (AAVIN). A high-level approach to be followed by the selected System Integrator for the acceptance testing is mentioned below:

- UAT would be applicable once the web-portal is operational and all the modules under the Contract are operational and linked.
- UAT would involve:
    - Development of Test cases and their approval from the TCMPF (AAVIN)
    - Application functional testing and testing of other Quality-of-Service requirements
- For all tests performed by the TCMPF (Aavin), the selected System Integrator will prepare the test reports and submit to the TCMPF (Aavin) for approval. Defects identified in any round of UAT by the TCMPF would be communicated to the System Integrator. The System Integrator will do the needful to troubleshoot or resolve the defects and resubmit the IDMS to TCMPF

(Aavin) for UAT. This iterative process for UAT will be performed till zero defects are shown by the selected System Integrator for the test cases developed.

- The selected System Integrator would ensure that errors detected in previous round of tests do not get repeated in successive tests.
- Partial acceptance testing (PAT) for each module/unit as and when it is ready can be taken up by the TCMPF (Aavin)
- The software application and test environments required to conduct UAT / PAT by the TCMPF (Aavin) would be provided by the selected System Integrator along with all the information necessary on-site to complete the UAT / PAT. The test environment would be maintained by the selected System Integrator and transferred to the TCMPF (Aavin) at the End of the Contract.
- The selected System Integrator would inform the Department in writing 15 days in advance of the date by which it would be ready for PAT / UAT
- The TCMPF (Aavin) reserves the right to appoint a Third Party Assessment and Acceptance Agency to review and evaluate the selected System Integrator on test cases and test results.
- Documentation at this stage to include but not be limited to the following
    - Test cases
    - Test results
    - Test assumptions
    - Test coverage and boundary conditions

The pilot district(s)/locations may be decided later by the TCMPF (Aavin) in consultation with the selected SI and pilot implementation plan may be subsequently finalized. The pilot implementation should cover the following offices (at least one type of each Location should be selected for pilot):

- Federation
- District union
- Bulk Milk Coolers (BMC)
- Chilling Centres
- Primary Society
- Milk Cooperative Consumer Societies (MCCS)

SI should supply new hardware to all the pilot locations. However, the pilot implementation should test the application's compatibility and stability on both new and old machines. This is important because during roll-out, some offices will have old hardware and some will have new hardware supplied by the SI.

Before the commencement of Acceptance Testing (AT), the SI shall showcase their readiness for AT. The nodal officers shall engage a comprehensive system review & Acceptance Testing with functional use-cases & predefined AT templates. In case of any observation made during the AT, SI shall make necessary corrective measures & have new version release. Each version release shall have proper documentation to articulate the type of change made effect in the current release. After successful completion of Pilot Implementation; the pilot locations shall continue to run the application till the date of Go-Live.

Based on the learning from the Pilot implementation SI shall prepare a comprehensive application Roll-Out strategy. The SI shall Roll-out the application based on approved Roll-Out strategy plan. The Final Acceptance Testing (FAT) for rolled-out application shall be tested for both remotely & onsite basis. The FAT shall be done by the TCMPF (Aavin) and their recommendations shall be

reviewed & approved by the Project Implementation Committee (PIC). SI must get the application Vulnerability Assessment & Penetration Testing (VAPT) complaint before hosting in the State Data Centre.

The SI shall submit a comprehensive O & M manual which shall articulate on how to use the TCMPF (Aavin) application & also detail about the various features of the TCMPF (Aavin) Application. The O & M shall be reviewed & approved by the PIC based on the recommendations from the Aavin and their representatives from time to time.

The SI shall also provide demo of the IDMS Application with voice-over detailing the various features, FAQ, live demonstration to facilitate e-learning of the end users. This demo should adequately address the needs of both new users & others users with some doubts in the system. This information may be added to all the modules and should be stored in the central server. All the office staffs should be able to access the videos from the application itself as and when required. Any changes implemented in the software modules should also be updated and uploaded in the respective module demo video.

Testing and Quality Assurance Requirements

Inspections

Factory Inspections: The Client reserves the right to conduct any factory inspections, including inspection of premises, accounts, facilities and other locations and documents which pertain to the work being performed. The SI shall allow full cooperation to the client in this regard.

Inspections following delivery: All items, including hardware, software, documentation, etc. would be reviewed by the client. In case deficiencies are found, the Client may require the SI to change / upgrade the same, which shall be carried out.

Pre-commissioning Tests

In addition to the Supplier's standard check-out and set-up tests, the Supplier (with the assistance of the Purchaser) must perform the following tests on the System and its Subsystems before Installation will be deemed to have occurred and the Purchaser will issue the Installation Certificate(s).

Acceptance Testing

The primary goal of Acceptance Testing is to ensure that the proposed e-Governance System meets requirements, standards, and specifications as set out in this RFP and as needed to achieve the desired outcomes. SI shall prepare the UAT criteria document and sample data for UAT, and take approval from Client, well in advance before start of the UAT process.

For UAT the test cases should be discussed and the test data will have to formally requested from each of the departmental users to ensure that each of the module user department get real time feel of the application. This approach would also help in availing faster acceptance from respective user departments of the Client and their key stakeholders.

The Client reserves its right to undertake this exercise of Testing, Acceptance and Certification through a third party. The correction of any errors or issues found shall be then performed by the SI.

The basic approach for UAT should ensure that the following are associated with clear and quantifiable metrics for accountability:

- Functional requirements
- Infrastructure Compliance Review
- Availability of Various Citizens Services through defined channels
- Performance
- Security
- Manageability
- SLA Reporting System
- Project Documentation
- Data Quality Review

Operational Acceptance Tests

The Client (with the assistance of the Supplier) will perform the following tests on the System and its Subsystems following Installation to determine whether the System and the Subsystems meet all the requirements mandated for Operational Acceptance.

The primary goal of Testing & Acceptance would be to ensure that the project meets requirements, standards, specifications and performance prescribed by the RFP by ensuring that the following are associated with clear, quantifiable metrics for accountability:

- Functional Requirements
- Availability
- Performance
- Security
- Manageability
- Project Documentation
- Data Quality

The project is to be designed to meet all functional, non-functional and management requirements as mentioned in the RFP

The Client will accept the commissioning and project Go-Live only after successful User Acceptance Testing confirmation from all respective departments. The departments will assess the functionality of the system along with the required outputs and MIS reports based on requirements/solution proposed in FRS, RFP, SRS, SDD and other documents to give final acceptance to the system.

A team comprising of representatives from Client, SI and respective departments will verify satisfactory performance of all the components of the solution with reference to requirements/solution in the FRS, RFP, SRS and SDD documents.

Any delay on account of Government side procedures such as issuance of Government orders, logistics arrangement at site offices, personnel deployment, power supply, network connectivity and

bandwidth etc. should not be considered for acceptance. In case such a delay occurs, the acceptance should be completed for those modules where these procedures are not impacting.

- Security Audit of the IT Infrastructure - SI is also required to conduct security audit of the entire IT infrastructure carried out by the third party and should be carried out before the Operational go-live of the entire system.
- Infrastructure Compliance Review - On receipt of hardware delivered by the SI, Purchaser will physically check all packages & boxes to check that the items are received as against the quantities & specifications indicated by the SI in its Bid. All System software being provided must be the latest & complete with all manuals. They must include the licenses, media (CD / DVD ROM / Pen Drive) and certificate of authenticity. On establishment of the network, installation & integration of the various components of the networks, Purchaser will carry out acceptance testing of the network/ integrated system to verify the conformity of the performance against the requirements and specifications provided in the RFP and/or as proposed in the bid submitted by SI. A burnout test for the servers shall be carried out for 72 hrs by the SI in presence of the Client.
- CERT-IN / STQC certification for the services on central application, web-portal and other modules has to be taken before the Go-Live of the project.

The Acceptance Test shall include unit test of each and every function and facility of the Web-Portal, Core modules and other functionalities of the solution. The functional requirement for the solution has been shared in the Terms of Reference. The system developed/customized by SI may be reviewed and verified by the third party agency against the Functional Requirements signed-off between SI and Client. Any gaps, identified as a severe or critical in nature, shall be addressed by SI immediately prior to Go-live of the system. The Acceptance Test shall include checks for all cross-functional and Inter-module integration and data flow requirements

Acceptance of the system shall be based on the integrated performance of Hardware, Software and Networking. The specification for Hardware and Networking shall be carefully specified by the System Integrator so as to ensure the desired level of performance of the Solution. Performance of the application is measured based on the throughput and latency of the system. The performance test will include following components:

- Determination of performance metrics based on the Services level requirements mentioned in RFP
- Designing performance tests
- Development of workload
- Performance testing
- Identification of bottlenecks and providing solutions
- Determining final performance figures.
- Communication of final results to all stakeholders

Final Acceptance Testing – Pre- requisites of Final Acceptance shall have the following:

- Installation & commissioning of all hardware, software supplied under this RFP including deployment of NMS , EMS , Helpdesk software
- All documentation and relevant acceptance test document (including IT Components, non IT components).

- Installation and commissioning shall include installation and commissioning of IT, non – IT components across project offices / Client sites and at DC & DR Site
- For both IT & Non-IT equipment / software manuals / brochures / Data Sheets / CD / DVD / media for all the supplied components
- Availability of all the defined services shall be verified and mutually agreed between Client and the SI
- SI shall be required to demonstrate all the features / facilities / functionalities as mentioned in the RFP
- Acceptance by Client is subject to satisfactory response from respective departments for all Modules and core application. Only after the satisfactory response from the entire stakeholder department, UAT report will be accepted by Client and the UAT phase will be considered completed. After the successful completion of the Final Acceptance Test, the client will award an Implementation Completion Certificate to the SI.

7.3. User Hardware Supply, Installation & Commissioning

The SI shall supply all the necessary server, storage, network infrastructure that is detailed in the consolidated BOM in Vol. II of this tender. The SI shall size the servers & other related infrastructure keeping in mind the total number of offices, concurrent internal users (500 max), external / citizen users (approximately 100 concurrent users) transactions volumes, packet sizes, etc.

All the offices already have legacy desktops and other peripherals which would be used along with the new hardware is supplied. These PCs have already been pre-loaded with MS Windows OS (2007, XP and 2000 versions). However, the SI would be required to procure hardware (Desktops, printers, UPS, etc.) for all the offices as detailed below. The Department shall provide the space for installation, furniture, electricity.

The table below represents the existing and the gap infrastructure requirement at Aavin.

Federation Units	**Desktop PC/ Laptop / Tablet / AIO with OS**		**Printer**				**UPS**		
	Existing	**Addl. Requirement**	**Existing**	**Additional Requirement**			**5 KVA**	**3 KVA**	**600 VA**
				MFP	**Laser**	**Thermal**			
Head Office, Madhavaram	51	38	29	7			2		1
Transport Unit, Madhavaram	5	6	3	1	6			2	4
Central Dairy, Madhavaram	9	23	11	5	8		3	3	9
JMD Office, Ambattur	11	26	0	4	2		2		6
Ambattur Milk Dairy	5	37	0	3	9		1	3	13
Ambattur Products	4	20	0	4	3			3	3

Federation Units	Desktop PC/ Laptop / Tablet / AIO with OS		Printer				UPS		
	Existing	Addl. Requirement	Existing	Additional Requirement			5 KVA	3 KVA	600 VA
				MFP	Laser	Thermal			
Dairy									
Marketing Unit, Nandanam	48	42	0	4	1		3		4
Milk Dairy, Sholinganallur	9	26	8	3	9		1	5	6
Thiruvannamalai Powder Plant	4	7		1	4			1	4
Zonal Offices	16	36	0	0	16			16	
Parlours		30				30			30
Grand Total	**162**	**284**	**51**	**31**	**54**	**30**	**12**	**33**	**80**

The actual requirement would be as provided for in the Commercial Bid.

SI should ensure power back up as per technical specification mentioned in Volume-II. To ensure proper backup, the SI should replace the UPS batteries. The SI shall however plan & supply the adequate software licenses w.r.t Database, Middleware & GUI required for the IDMS Application. The SI should provide proper encryption in the database to the stored data safely. In case IDMS Application is to be developed in Windows based environment then all desktops/PCs in the offices would not require any additional licenses to be installed in the desktops/PCs. All the servers shall be supplied with OS license coupled along with it. Desktops supplied to TCMPF should all be SYSmark rated.

Along with the commissioning of User Hardware, the SI shall also deploy an online Asset Management tool that is capable of tracking and managing electronic hardware and software assets throughout the full lifecycle. The system shall be used for monitoring pre-existing as well as supplied assets and necessary MIS reports shall be made available to Aavin through a Portal and a time based batch job.

7.4. Data Conversion and Data Migration

Data Conversion and Migration

SI shall perform the data migration from the existing systems to the Database implemented for the proposed e-Governance System. The Data migration to be performed by the SI needs to be preceded by an appropriate data migration methodology **(ETL),** prepared by the SI and approved by the Client. Though Client is required to provide formal approval for the Data Migration Strategy, it is the ultimate responsibility of the SI to ensure that all the data sets which are required for operationalization of the agreed user requirements are digitized or migrated.

Any corrections identified by the Client or by its agents, during Data Quality Assessment and Review, in the data migrated by the SI, shall be addressed by SI at no additional cost to Client.

So far as the legacy data is concerned, they are either available as structured data in the IT systems that are currently used by Client or in the form of paper documents.

The current database size covering the entire existing module operational at Client is approximately 600GB.

Data Migration methodology and requirements

- A proper data migration methodology has to be defined and implemented by the SI to ensure that the data migration from all the existing databases & data structures is smooth and there is no data loss or data model mismatch. A mapping will have to be carried out between Source (Existing) and Target (New developed) data models duly approved by Client.
- Carry out the migration of legacy electronic data with required tools and conversion to Unicode compliant format for accurate migration to new database
- Provide checklists of the migrated data/ databases to Client for verification, including number of records, validations (where possible), other controls / hash totals. Highlight errors, abnormalities and deviations.
- Incorporate corrections as proposed
- Incomplete / inaccurate data when provided will have to be revalidated and completed by the SI without any additional cost to Client
- Get final sign off from Client for migrated data/ databases.

Data Digitization/ Entry

- The SI would be responsible for developing appropriate electronic forms for ensuring ease of data entry.
- While this contract does not require performance of data entry, the SI is required to provide all assistance to the client to ensure accurate data entry.

Data Management

SI would be responsible for extending all possible support to different departmental or contract staff for Data Management (like Data entry Screens, Report Generation, Data Analysis, Data Cleansing, etc.). Data could be in English as well as in Tamil.

7.5. Centralized Help Desk

The SI is required to set up a central Helpdesk in the state in order to provide the departmental personnel and external users of its system a one-stop solution for resolution of all their IT and business process related queries / grievances. An indicative list of activities that the selected System Integrator would be required to perform for set-up and operationalization of the Helpdesk are detailed below.

All users (departmental and external) of the system should be able to log a request in the system using any of the following channels:

- email
- Telephonic call on the Toll-free Helpline
- Online chat on the departmental web-portal
- Through intranet for departmental users or web-portal for external users

The detailed description of activities to be performed by the selected System Integrator for the Helpdesk is as listed below:

7.5.1. Site Preparation at Helpdesk

The selected System Integrator has to operate the central Helpdesk on a 24x7 basis from the Department office in Chennai. The space for the Helpdesk will be provided by the Department.

The selected System Integrator will be responsible for the site preparation at the proposed Helpdesk location. The minimum site preparation requirements are given in the table below. The selected System Integrator has to deploy all necessary infrastructures and prepare the site so as to meet the SLAs mentioned in the RFP.

S. No.	Location	Minimum Site preparation Requirements per Site
1.	Helpdesk (Space to be provided by Department)	1. Adequate firefighting equipment 2. Generators 3. UPS with at least 30 minutes of backup upgradeable to 2 hours. The minimum battery backup required to be provisioned by selected System Integrator is 30 minutes 4. Structured cabling for Electrical and Network Wiring and Cabling. The SI needs to undertake the assignment to design, lay & maintain structured cabling for providing electrical and network connectivity to all the required devices. The cabling done should ensure adequate rodent protection, protections at difficult corners of the building, waterproof cabling. The cabling should be done in a manner so that least changes are required for future expansion & should also be resistant to wear & tear. 5. Required Furniture for seating operators 6. Toll-free number with 5 lines 7. Air-conditioning if deemed necessary by the System Integrator 8. Partitioning of the space for operator as required should be done by the SI Please note that Civil works, flooring etc. at Helpdesk are not required to be done by the selected System Integrator as part of this Project

7.5.2. IT Infrastructure at Helpdesk

The selected System Integrator will be responsible for procurement, installation, commissioning and operating the IT infrastructure required for the smooth functioning of the Helpdesk. Minimum IT

infrastructure to be provided at Helpdesk is Desktops - 5, Antivirus software (client licenses) - 5, toll-free number – 5, helpdesk application – 1, EMS license.

7.5.3. Application Software at Helpdesk

The selected System Integrator will be responsible for installation of application software at the Helpdesk under the purview of this Project. The functional requirements of the Helpdesk application are listed below:

Helpdesk – Functional Requirements	
1	Helpdesk should be able to receive requests from internet / intranet / chat/ phone.
2	All requests received from external and internal users from the portal / intranet / chat/ phone should be logged into the Helpdesk application along with details of who made the request (User name, email ID), time and date of request etc.
3	For requests received via phone, the system shall have the capability of Calling Line Identification (CLI) or the Automatic Number Identification (ANI) from the telephone system.
4	A menu based IVR should help categorize the calls and for every call landing on the Helpdesk through the Helpline, it shall be possible to intelligently route the calls to specific operators, based on nature of call. If a caller abandons/disconnects the call while waiting for an agent, such abandoned calls shall be removed from the queue.
5	System should be able to match the detected number of the caller with the existing dealer database to retrieve their profile/related information.
6	System should allow categorization of the request based on type of problem. The application should be menu-based to arrive at the category of the request.
7	System should provide unique reference number for all requests logged which can be quoted by the users at the Helpdesk to know the status of the request
8	System should send acknowledgement of request received at Helpdesk through SMS or email to the users (if the user is internal staff or a registered dealer)
9	Depending upon the category of the request, system should route the request logged into the Helpdesk application to the designated Helpdesk operator or to a designated officer within the Department as per process agreed for resolution of requests.
10	System allows queuing of request by category. Requests should be resolved on a FIFO basis
11	System should allow the user to submit details relating to the response / resolution of the request
12	After the resolution of any issue, system should send e-mail and SMS requesting for confirmation of the issue resolution from the internal user who had logged the request. System shall facilitate capturing the feedback, in both quantitative and qualitative manner as agreed with Department, from the caller through email, SMS or online form for each call logged by the caller
13	User should be able to close the request after receiving confirmation from the internal user or otherwise in case of external user
14	System should allow voice recording of calls as per requirements of the Department.
15	System should provide facility in Helpdesk application to create a knowledge base of all request logged through various channels and their resolution to allow operators to search / query the knowledge base based on keywords
16	The knowledge base should provide for FAQs and also be able to provide for the import of

Helpdesk – Functional Requirements	
	any issue along with its resolution method into the knowledge base

7.5.4. Helpdesk Operators

The selected System Integrator is required to provide operators at Helpdesk for operating and managing the Helpdesk on a 24 x 7 basis. The operators would have to perform various activities including:

- Understanding the query/issue in the reported request. Query could be related to the following:
  - hardware including issues related to desktop/laptop, printer/multi-function device, local server, routers/switches
  - application including login and password issues, accessing a particular module, navigation assistance, report generation assistance
  - network including internet/intranet and Tablet PC connectivity
  - others including Digital Certificates
- Providing information/ clarification on the spot in case of an informational query or providing necessary troubleshooting assistance in case of a logged issue.
- Forwarding the query to concerned departmental personnel in case the selected System Integrator's personnel does not have sufficient knowledge to answer the information sought and the query pertains to departmental procedures / policies. The answers to such queries should also be recorded in the knowledge base for future reference
- In case of technical issues for which a resolution is not possible instantly, the operator will submit the request into the system for escalation and further action by the System Integrator's team.

Specific qualifications and experience of manpower to be deployed for Helpdesk operations are below:

- Minimum Educational qualifications and certifications: Graduate/Diploma in IT / Computer Science (at least 2nd division) from a University recognized by Central/ State Government of India
- Should have at least 1 year experience as a Helpdesk operator as on date of submission of Bid
- Should be fluent in speaking/reading/writing of at least English and Tamil.
- Should have expertise in computer skills including usage of operating systems, browsers, word processing applications.
- Should have been trained on use of Helpdesk application
- Should be familiar with and possess basic knowledge of services, procedures and processes of the Department

7.5.5. Toll-free Line

- The selected System Integrator is required to provide the Helpdesk services over a Toll-free number. At least 5 lines should be available 24 X 7 for the Helpdesk services.
- Any one-time charges such as those for procurement, development, registration, commissioning, etc. of the Toll-free lines and any fixed recurring charges such as monthly rentals etc. will be borne by the selected System Integrator for the period of Contract.
- The phone lines would have to be procured in the name of the Department.

7.5.6. Helpdesk Capacity

The selected System Integrator is required to provide a minimum 5 seat Helpdesk with 5 phone lines during all hours (24 x 7). The helpdesk should be manned by 5 operators during the peak hours (10 AM to 7 PM) while minimum of 2 operators should be available during the off-peak hours providing 24x7 support. However, if the selected System Integrator believes that in order to meet the SLAs, additional capacity is required, the same may be provided by the selected System Integrator. It is also to be noted any supervisors required for the Helpdesk operators would be over and above the 5 operators mentioned.

Regardless of the Helpdesk capacity, the System Integrator is bound by the Service Level Agreements.

7.5.7. Call logging – Critical & Non-Critical Calls

The calls logged should have two types of priorities –

1. Critical calls that lead to inability of locations / users to perform all functions pertaining to that particular location(s). Such calls will include issues with hardware, software, network, etc. Any dysfunctional hardware at any of the locations would be classified as critical, and
2. Non-critical calls that do not lead to complete disruption of services at any location(s) and there may be some work-around available.

Further, Calls related to application, hardware at offices and SDC may be classified as calls pertaining to availability and performance which may be again classified as critical or non-critical. Availability is inversely related to downtime while performance is related to memory usage, CPU usage, etc.

In case of any dispute related to the nature of the call, whether critical or otherwise, a joint meeting shall be convened with the Client where it would be decided if the call is / was critical. The decision of the client shall be final.

7.6. Connectivity

The setting up the Network connectivity is the important key element for the implementation of IDMS project. The offices/locations that are to be covered are distributed in multiple Districts in the State. The nature of the offices/locations is complexes, having multiple buildings, to cater to the various functions/activities related to diary production/ administrative functions related to federation/Unions.

The network connectivity is to be given to the offices/locations so that the access to IDMS application is enabled with suitable type of connectivity with required bandwidth to connect the State Data Centre, which will house the IDMS servers/application.

The following locations are taken up for the assessment of the network requirement:

Particulars	No. of Locations	Nature of Location
Madhavaram Head office	**1**	**Complex**

Particulars	No. of Locations	Nature of Location
Madhavaram Milk Dairy (including Transport Unit)	**1**	**Complex**
Ambattur Milk Dairy, Product Dairy and JMD office	**1**	**Complex**
Sholinganallur Milk Dairy	**1**	**Complex**
Thiruvannamalai Milk Dairy	**1**	**Complex**
Nandanam Marketing/Product wing	**1**	**Complex**
Zonal offices	**16**	**Individual Location**
MCCS	**48**	**Individual Location**
Parlours	**30**	**Individual Location**
Salem Union Dairy	**1**	**Complex**
Salem – Namakkal CC	**1**	**Individual Location**
Salem – Athur CC	**1**	**Individual Location**
Salem – Paramathivalur CC	**1**	**Individual Location**
Salem – Bulk Milk Coolers	**42**	**Individual Location**
Erode Union Dairy	**1**	**Individual Location**
Erode – Sankaradampalayam CC	**1**	**Individual Location**
Erode – Satyamangalam CC	**1**	**Individual Location**
Erode – Bulk Milk Coolers	**17**	**Individual Location**
Erode – BFSS	**1**	**Complex**
Maduari Union Dairy	**1**	**Complex**
Madurai – Theni CC	**1**	**Individual Location**
Madurai – Bulk Milk Coolers	**14**	**Individual Location**
Krishnagiri Union Dairy	**1**	**Complex**
Krishnagiri – Dharmapuri CC	**1**	**Individual Location**
Krishnagiri – Thenkanikottai CC	**1**	**Individual Location**
Krishnagiri – Bulk Milk Coolers	**15**	**Individual Location**
Ooty – NJSF	**1**	**Individual Location**

7.6.1. Proposed connectivity for the complexes

The connectivity requirement for the complexes has been assessed and it is observed that the maximum number of floors in buildings is only 2. The typical number of computers/printers/MFPs that will be required in each building is also taken as reference to design the network. The type of network connectivity with in the building will be LAN (Local Area Network) / Wi Fi and inter building will be CAN (Campus Area Network. It is proposed to identify one building as a central point of connectivity, which will be connected with all the other buildings through a suitable media to have a reliable connectivity, long term sustainability and capable of handling the future scalability in the network.

The central point to be connected to SDC and it is proposed to establish the horizontal connectivity with TNSWAN through leased lines and hence each complex will get connected to SDC through TNSWAN. All the users of IDMS in the complex can access the IDMS servers/application at SDC though the secured TNSWAN connectivity. As a value added service, internet access will be made available to all. The internet is also a secured/restricted one as per the TNSWAN internet usage policy

and hence the misuse of internet will not be possible. Apart from internet, voice & video services also possible through TNSWAN, provided the required end equipment is installed by the department.

The bandwidth for the horizontal connectivity is proposed based on the number of nodes in the complex. The redundant connectivity for the leased line can be planned as VPNoBB.

The scope of the network connectivity will be provisioning of core switch at the central point & access switch/media converter in the other buildings and passive cabling/accessories for LAN & CAN to intra building & inter building connectivity respectively. The passive cabling will be using copper with in the building and using fibre for inter - building.

7.6.2. Proposed connectivity for Zonal offices & CC

The number of computers taken as four (max) in the zonal offices and two in the CC. Hence, it is proposed to connect the zonal offices & CC using the broadband connectivity and the connectivity will be a secured one, if the broadband is given with a static IP. Redundant connectivity can be planned through a data card.

The scope of network connectivity will be passive cabling for LAN and access switch.

7.6.3. Proposed connectivity for Parlours & BMC

Since, only one computer/Device will be available in the parlour & BMC, it is proposed to have the connectivity through data card. The details consolidated in a template to assess the network requirement are consolidated location wise and it is given at Annexure. The template provides the details of the networking hardware, type of connectivity and the bandwidth requirement of the connectivity.

7.7. IT Compute Infrastructure and Disaster Recovery Setup

IT Computing Hardware Specifications

Processing unit performance: Sizing, Supply, Installation & Maintenance of the following Server Side Hardware and Software. Below is the indicative list identified, however, bidder needs to suggest any further requirement to implement and maintain the project.

- Racks (to be provided by SDC and / or the SI)
- Network equipment
- Security equipment
- SAN,
- Database / Application / Web Servers
- Backup Device (Storage) and Media
- Load Balancers
- Firewall
- Routers / Switches, etc.

The Bidder is required to give details of product with version details and also include it as a part of technical bid an un-priced detailed Bill of Material for which individual price components should be mentioned in the Financial Bid.

The Client also wishes to have a passive backup site to be setup. This site shall have live replication of the database server hosted at DC. Additional backup copy of Application as well as the web-server should also be made available to mitigate unforeseen event of DC failure. All the required network and hardware equipment along with the backup and other software should be included by the bidder as part of the technical BoM. Bidders are required to enhance the BoM to ensure a complete DR centre is established, including but not limited to Civil Works, HVAC, Electrical works, UPS, Racks, Servers, Switches, Routers, Firewall, IPS, HIPS, etc.

The SI would be completely responsible for the sourcing, installation, commissioning, testing and certification of the necessary software licenses and infrastructure required to deploy the Solution at the Data Centre and Backup site. SI would ensure that support and maintenance, backup, performance and up-time levels are compliant with SLAs.

To ensure redundancy requirements are met, SI would ensure that infrastructure procured by the SI has redundancy built in. SI would also provide descriptive 'Deployment Model' Diagrams and Details.
All the equipment for server would be installed in the Tamil Nadu State Data Centre and thus must be compatible with the existing setup.

The following is an indicative (minimum) list of equipment that must be proposed by the Bidders as part of Bill of Material.

SDC	**Quantity**
Compute Power	As required – Latest E7 or equivalent Chips and server architecture to be used as per the compliance matrix.
Primary Memory	At Least 5 TB of Primary Memory spread across the solution spanning the SDC infrastructure.
HIPS, IPS	As Required
Archival Server	As Required
SAN Storage for approx. 40 TB	As Required
Tape Library with Backup	As Required
Console (KVM Switch) / Desktop / 42U Racks	As Required
Others	As Required
DR	**Quantity**
At Least 80% of Capacity of the DC equipment | 100% for Storage	As Required
Site Preparation	As Required
Power Backup, Generator, UPS, HVAC, Access Control, Fire Suppression, etc.	As Required
Hardware Firewall, IPS, Load Balancer, miscellaneous support equipment, software	As Required

SDC	Quantity
and manpower	
Bandwidth	As Required
Others	As Required

Since the SDC is in expansion mode and may take some time before availability, the operations may be started from the DR centre and the SDC may be made operational when space is available. In case the DR is made operational and SDC space is not available, 50% of the relevant milestone payment will be released to the SI and post equipment setup and commissioning, remaining payment shall be released.

It would be preferable to have the least number of physical equipment that meets the configuration and SLA requirements. The indicative configuration should be as provided in the ***Volume II*** of this RFP. Bidders are required to prepare appropriate Physical Architecture and size the hardware / software accordingly.

Bidders are required to quote industry standard, proven products meeting the Specification of the RFP. A copy of Datasheets for all the proposed equipment against the Bill of Material as per RFP should be attached. The quantities mentioned are subject to vary.

Use of Enterprise Software: Unless supported by compelling reasons, this Bidders are required to use only Enterprise (or the highest) class of products, including but not limited to Operating Systems, Databases, Servers, etc.

Management features: All server and equipment proposed by the Bidders must be able to be managed remotely using industry standard tools and software and these management tools must be included in the Bill of Material.

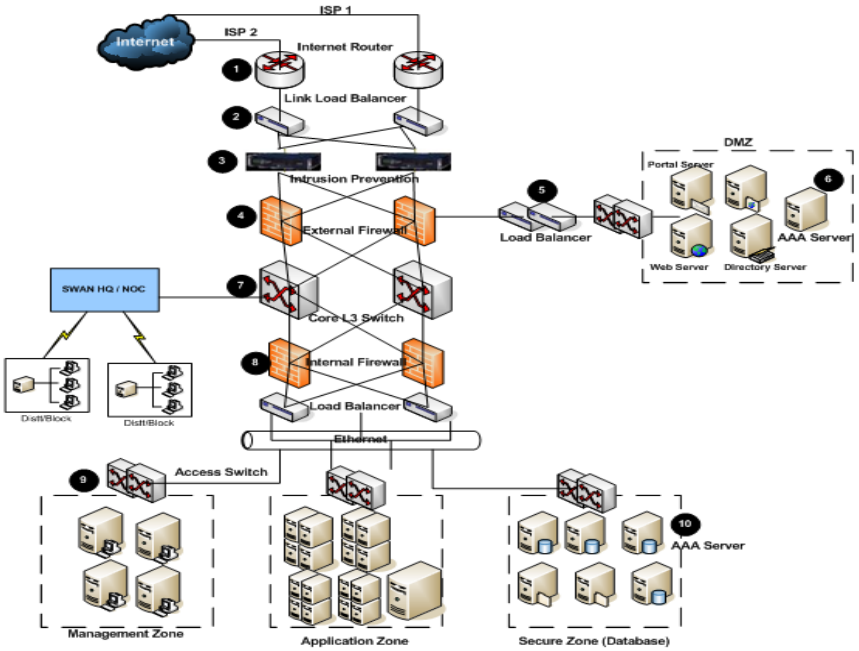
No item proposed by the Bidders should be manufactured earlier than One year from the date of submission of Bids.

Primary Data Centre

The SI shall pay 1% per quarter of total hardware cost that is to be deployed at the State Data Centre (SDC) to the Data Centre Operator (DCO) through TCMPF (AAVIN). The application shall support clustering & virtualization & same may be done for increasing the utilization of the each server. TN SDC supports rack servers and hence servers provided by SI for SDC should be rack only. Other hardware such as access switch, etc. should be procured as per SDC supported infrastructure requirements.

All legacy data shall follow a periodic archival process; such archived data shall be stored in tapes / DVD Disks & stored in the fire Proof storage units.

Typical State Data Centre Architecture is given below



Tamil Nadu data centre has some common infrastructure that can be leveraged by all departments. The following common equipment are available from TNSDC:

S. No	Description of Material	Current Quantity
1.	Core Switches	2
2.	Access Switches	10
3.	External Firewall	2
4.	Internal Firewall	2
5.	Internet Router	2
6.	SWAN Interface Fibre module	2
7.	AAA Appliance	2
8.	Link Load Balancer	2
9.	Server Load Balancer	2
10.	Network IPS	2
11.	Backup Servers	2
12.	Staging Servers	2
13.	Integration Servers	2
14.	Archival Server	1
15.	Directory Server	1
16.	DNS Server	1
17.	Enterprise Access Servers	2
18.	NIPS Server	1
19.	IP KVM Switches	10
20.	Server Rack (max 5 KVA)	10
21.	Network Rack	5

The following common infrastructure is available at the TNSDC which can be utilized by the Government Department's applications planned to be hosted at TNSDC. Therefore, SI may have to

deduce the additional license/hardware requirement for the below mentioned common infrastructure and procure the same to ensure effective operation and maintenance of the proposed TCMPF (AAVIN) solution.

S. No	Description of Material	Make	Model	Current Quantity
1.	HIPS / AV Server	HP	DL380G6	1
2.	SAN Storage	EMC	Clarion CX4-480	1
3.	Tape Library	HP	MSL6060	1
4.	Backup Software	EMC	EMC Networker	1
5.	Archival Software	EMC	Disk Extender	1
6.	Security Management Solution	Novel	-	1

Disaster Recovery Centre

The TCMPF envisages **active-active type of Disaster Recovery (DR) management solution**. The IDMS Application shall be developed in such a manner with necessary clustering, such that it facilitates DR operations.

The DR site space shall be provided by the TCMPF. The SI is required to Design and implement adequate data backup, business continuity and restoration procedures for the departmental data (including but not limited to the database, attachments and all other data elements created in and generated by the system and users). The SI should also create the necessary infrastructure for the DR centre such as precision ACs, generators, adequate power backup, physical partitioning, etc. The SI should ensure that there is no single point of failure and adequate level of redundancy is built in to meet the uptime and other requirements of this RFP. While building redundancies, it should be ensured that failure of a single component of communication link does not result in failure of primary as well as secondary connectivity. Hence primary and secondary connectivity should be taken from 2 separate communication link providers and both links should not have any single point of failure. Preferably, all the redundancy will be in auto fail over mode so that if primary component fails, secondary component automatically takes over.

It should be ensured that data backup till the last transaction occurring in the system to ensure enhanced service levels and following RPO and RTO objectives:

- Peak hours: Zero RPO and RTO <= 15 minutes
- Non-Peak Hours: Zero RPO and RTO <= 60 minutes

Periodic testing may be done to ensure that all replication and data synchronization procedures are in place all the time. Replication between Data Centre and DR Site as well as change-over during disaster should be automatic and real-time for minimal impact on user experience.

7.8. Change management & Capacity Building

The selected System Integrator would be required to provide training on various aspects to enable effective use of the new system to achieve the envisaged outcomes. The SI shall be required to prepare and organize training programs to facilitate the user departments in the efficient usage of the

whole system. The SI shall provide training as per the proposed training plan schedule to be shared as part of their technical bid.

The SI is required to conduct a Training Needs Analysis of all the concerned staff and draw up a systematic training plan in line with the overall project plan. For all these training programs the SI has to provide necessary course material and reference manuals (user/ maintenance/ administration)
The /SI shall provide training to system users to efficiently use the system. The staff thus trained would subsequently train the other staff as required.

Based on the roles and responsibilities of the client officials at various levels, the training plan should be proposed; it should address level wise functional and general training requirements in accordance with the existing skillset and capacity of the officials.

The SI has to provide Application Training for approximately 3000 Users across all locations in various aspects of application use and System Administration. A Batch size would not in normal cases be more than 40. Training Room will be provided by the Client. Training would be held at various locations in the State that would be discussed with the SI.

"Train the Trainer" Training would need to be provided to approximately 10 personnel in each of the modules developed.

A detailed training schedule, including the dates, areas to be covered, time and the training literature (to be supplied to Client) at various stages of the training cycle and feedback for effectiveness will be agreed to by both parties during the performance of the Contract.

Training shall encompass the knowledge of detailed functionalities of department specific modules for each of the concerned departmental users along with basic functionality of the entire solution
For imparting training; SI will have to provide training material, trainer, along with training infrastructure such as, overhead projector, etc., Trainings shall be provided as per the training schedule.

Training shall be imparted in Tamil and English language as per the requirement of the trainees. The printed manuals and training manuals should also be available in Tamil and English Language.
SI is required to provide CBT for each of the functional module on the intranet / intranet / soft copy / CDROM for reference of the departmental users. CBT has to be in both Tamil and English Language.
The SI should create an online examination, evaluation and feedback system for use during training.

Preparation of Training material

- Training Plan: The selected System Integrator would be required to prepare a detailed training plan covering at least the trainings to be conducted, targeted audience, location, dates for training, duration and training content. The training plan would be submitted to the TCMPF (AAVIN) as per timelines mentioned in this RFP for feedback and approval from the TCMPF (AAVIN).
- Training Materials: The following minimum training materials will be required to be prepared by the selected System Integrator to facilitate the training of users:

Method of training	Brief description	Training Artefacts	Languages of Training Material
Class room training (Hands-on training)	This approach can be adopted for TCMPF (AAVIN) users.	IT infrastructure and dummy data for hands-on training Participant hand-outs Online and Paper-based tests to evaluate the quality of learning and Training Provision for online and paper-based feedback submission	English Tamil
Self-learning	This will be useful for both the departmental users and for citizens to learn system operations in the new application. This would include several self-learning methods for enablement of easy learning and adoption of the system by the departmental users and citizens	Downloadable Computer Based toolkits, PPTs and videos on system operations and usage FAQs Online help modules with search by keywords, topic etc. Online tests that may be taken up by the participant after completing the learning to evaluate his learning Online forms to submit feedback on the quality of training material	English Tamil

Approval for training materials prepared should be obtained from the TCMPF (AAVIN) **at least 2 weeks** before delivery of the training program.

Departmental Users

The indicative list of training programs proposed for departmental users are mentioned below:

#	Type of audience to be trained	Training Content	Target Vol.	Target Completion Timeframe
1	Officers	• Application training hands-on • MIS	TBD	before the implementation of the respective locations in the district
2	Executive Staff	• Application training hands-on • MIS	TBD	before roll-out

#	Type of audience to be trained	Training Content	Target Vol.	Target Completion Timeframe
3	Dairy Personnel	• Application training hands-on • MIS	TBD	before roll-out
4	Project Core Team from TCMPF (Aavin) and others	• Application training on application architecture, DB, Security	TBD	before roll-out

Maximum number of participants per Batch shall be 40.

Please note that the selected System Integrator would have to plan for training programs in various locations in line with the proposed implementation plan. For instance, the selected System Integrator would have to make arrangements for completing training for the targeted number of users at the pilot location before the pilot rollout so as to facilitate evaluation of all aspects of the Project at the pilot location.

Training Assessment and Collection of Feedback

All users who have undergone the training provided by the selected System Integrator would be assessed. As part of training assessment, TCMPF (AAVIN) would perform the following:

- Design forms for gathering feedback on the training course and satisfaction level of trained participants. The feedback would be aimed at gathering participant inputs on parameters including course coverage and its relevance, quality of presentation, quality of training material provided, relevant examples / practice sessions, quality of faculty, logistics for the training, etc.
- Supervising conduct of training exams with the help of SI manpower
- Evaluation of exams by the TCMPF (AAVIN) or its appointed Third Party Agency with support from the selected System Integrator.

The selected System Integrator's responsibilities as part of training assessment are as follows:

- Develop computer-based tests for evaluation of training and collecting training feedback. Details of the parameters for tests / feedback, duration of tests, specific questions etc. will be discussed with the selected System Integrator during the implementation stage.
- Incorporate the feedback to improve the Training Materials and Methods

Space and Physical Infrastructure

The space required to conduct training will be provided by the TCMPF (AAVIN). The training space provided will be furnished with seating arrangement. The selected System Integrator may provide anything over and above this, including computer systems for trainings, as may be deemed fit to meet the training requirements of this Project.

Staffing and Training

The selected System Integrator must ensure that:

- Deployed trainers possess needed skills and experience in the specific domains and are fully aware of the deployed systems and have a prior experience of training personnel in the Government sector/Dairy
- Deployed trainers should be fluent in speaking and writing in English and Tamil

Other arrangements

- The training environment where users are provided hands-on training should be exact replica of the live application allowing entry of dummy data etc. Any additional infrastructure required for this may be budgeted for by the Bidder in the pricing format in Volume - III of the RFP. The Bidder may provision for this Training environment separately or may provision to use the Test environment for the purpose of delivery hands-on training to TCMPF (AAVIN) Staff. This training environment will be handed over to the Department along with all other assets at the end of Contract Period.
- Arrangements for travel/boarding/lodging for the training instructors and supporting staff at all designated locations across the state would be done by the selected System Integrator at no additional cost.

7.9. Security & Performance Audit

SI shall be responsible for conduct application Vulnerability assessment, security & performance audit done by any CERT-IN empanelled agency. Only on successful clearance report through a compliance audit done by the same agency i.e. post SI addressing all the Non-conformance & vulnerability aspects the application is deemed ready for Go-live. In case of any default there would penalty levied as per SLA & Tender conditions.

7.10. Implementation Locations

The following table shows the implementation locations envisaged under this contract:

Federation	District Unions	Societies
Madhavaram • Head Office (1) • Madhavaram Milk Dairy (1) • Transport Unit (1) Ambattur • JMD Office (1) • Ambattur Milk Dairy (1) • Ambattur Product Dairy (1) Sholinganallur Milk Dairy (1) Tiruvannamalai Powder Plant (1) Marketing Unit • Zonal Offices (16) • Consumer Societies (48) • Parlours (30) BFSS, Erode (1) NJSF, Ooty (1)	Salem Union/FBD (1) • Chilling Centres (3) • Bulk Milk Coolers (42) • Marketing Office (5) • Parlours (7) Erode Union/FBD (1) • Chilling Centres (3) • Bulk Milk Coolers (17) • Cattle Feed Plant, Erode (1) • Parlours (1) Krishnagiri Union/FBD (1) • Chilling Centres (2) • Bulk Milk Coolers (15) • Marketing Office (3) • Parlours (12) Madurai Union/FBD (1) • Chilling Centres (1) • Bulk Milk Coolers (14) • Marketing Office (10)	Primary Societies (2800)

However, with regards to Societies, only Application Implementation as developed by the SI is applicable only for 300 Primary Societies and all the Consumer Societies.

7.11. Pilot Implementation

The complete developed application shall primarily be rolled out on pilot basis. The pilot district(s)/locations may be decided later by the TCMPF (Aavin) in consultation with the selected SI and pilot implementation plan may be subsequently finalized. The pilot implementation should cover the following offices (at least one type of each office Location should be selected for pilot):

- Federation
- District union
- Bulk Milk Coolers (BMC)
- Chilling Centres
- Primary Society

The IT compute infrastructure installed at Data Centre, Disaster Recovery Centre (DRC) shall house the application & database in redundant manner and should be ready before pilot implementation. Training for the pilot location staff should be completed before initiating pilot implementation. Pilot locations should be chosen to include locations with older hardware, new hardware supplied by the SI. Connectivity should be provided for the pilot locations. Post the pilot implementation the system run through stabilisation period of 15 days, during the period the system should be able meet the operational SLA requirements mentioned in this RFP. On compliance to the same the system is deemed to be stable and fit for IDMS Roll-Out.

7.12. Modifications of IDMS Solution from learning from Pilot Implementation

The SI shall be responsible to chronologically consolidate all the Change Request and key learnings in the pilot. The SI shall present the same in the form of a comprehensive key learnings report which should encapsulates, application debugging, findings & resolutions, lessons learnt during Acceptance Testing, Stabilisation, Change Management & Pilot Implementation etc., This report should have an exclusive section on strategy adopted to State-wide Roll Out duly addressing all the lessons learnt in the Pilot implementation.

7.13. IDMS Roll-Out

Once the system has been rolled out across the State post pilot acceptance, the System Integrator will notify the TCMPF (AAVIN) so that the system may be assessed by the Third Party Assessment and Acceptance Agency. The procedure adopted thereafter is similar to the procedure adopted for acceptance of Pilot. A sign-off on the Go-Live will be provided by the TCMPF (Aavin) after Acceptance.

7.14. Stabilization Period

The application tested for acceptance testing & Final Acceptance Testing is observed over 5 weeks. The application shall be monitored for consistency & efficiency over a period of time. The application & resources should be well equipped such that SI is able to comprehensively meet the SLA / performance requirements.

7.15. Go-Live

Go-Live is declared by TCMPF (Aavin) when the proposed solution becomes operational after successful conclusion of all acceptance tests to the satisfaction of the TCMPF (Aavin) or as provided in this RFP.

7.16. Documentation Requirements

The SI will provide documentation, which should follow the ITIL (Information Technology Infrastructure Library) standards. This documentation should be submitted as the project undergoes various stages of implementation. Indicative list of documents are provided here.

All documents prepared should be submitted to the client for review and filed appropriately by the SI until the end of the contract period, when all the artefacts should be handed over to the client.

End-User documents

- User Manuals: For all the Application Software Modules, required for operationalization of the system.
- System Manual: For all the Application Software Modules, covering detail information required for its administration.
- Installation Manual
- Any other documentation that is required or necessary as directed by the Client.

Technical Documents

- Project Commencement Documentation: Project Plan in giving out micro level activities with milestones & deadlines.
- Equipment Manuals: Original Manuals from OEMs.
- Training Material: Training Material will include the presentations used for trainings and also the required relevant documents for the topics being covered.
- Test Plans and Test cases (including Unit Test Plan, System/Integration Test Plan, User Acceptance Test Plan, Security Test Plan, Load Test Plan, Regression Test Plan)
- Software Testing Documentation (including details of defects/bugs/errors and their resolution)
- Source Code & Versioning document
- Inspection and testing procedures manual including QA Policy as per STQC framework and Procedures for the software/hardware equipment
- Software Design Document
    - High Level Software Design document including Software Architecture design, Logical and Physical Database Design etc.
    - Low Level Software Design document including Programming Logic, Workflows etc.
    - Complete Source Code with documentation
- The implementation agency shall prepare a process document in accordance with the ISO 9001 standard; containing all the process being carried out during the entire tenure of the project and share the same with the client.
- Periodic reviews (at least once every quarter) shall be carried out for measurement of effectiveness for each of the process implemented.
- Escalation Mechanism
- Exit Management Plan
- Any other document(s) deemed necessary for implementation, operation and maintenance of the overall system.
- Any other documentation that is required or necessary as directed by the Client.

The formats of the document shall be finalized in consultation with the client. The SI will ensure Upkeep & continuous updating of all documentation and manuals. The same shall be hosted in an online system and appropriate number of licenses for access shall be shared with the Client and their Agents.

7.17. Exit Management

This Schedule sets out the provisions, which will apply on expiry or termination of the contract. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

Transfer of Assets

- SI shall be entitled to use the Assets for the duration of the exit management period, which shall be the four month period from the date of expiry of contract, or termination of the contract.

Confidential Information, Security and Data

- SI will promptly on the commencement of the exit management period, supply to the Client or its nominated agencies the following:
- Information relating to the current services rendered and performance data relating to the performance of the services; Documentation relating to E-Governance Project, Project's Intellectual Property Rights; any other data and confidential information related to the Project;
- Project data as is reasonably required for purposes of the Project or for transitioning of the services to its Replacing Successful SI in a readily available format.
- All other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable the Client and its nominated agencies, or its Replacing the SI to carry out due diligence in order to transition the provision of the Services to Client or its nominated agencies, or its Replacing the SI (as the case may be).

Hand holding and knowledge transfer support

- In case of project contract expiry, SI shall ensure that the identified officials of Client (IT Cadre) are given proper handover and Knowledge transfer at least 6 months prior to the completion of contract period and only on acceptance of the role by the identified officials of Client, the contract completion certificate along with the last payment to the SI will be released.
- System Integrator would be required to provide Handholding support to the Client personnel at least 6 months prior to the completion of contract period. As part of handholding support the System Integrator will provide one qualified and trained person exclusively per Department for a specific period to handhold the Client staff and ensure that the staffs in that Department are able to use the newly developed solution on their own by the end of the handholding period. Handholding support would be required only after the successful commissioning of Application and the necessary infrastructure and completion of capacity building and change management initiatives in respective offices. The deployed qualified trained person would support the office during the office hours on all weekdays and may remain off from duty on Sundays. However, if situation demands the trained person shall remain present late during the day or on the holidays (including Sundays).
- As part of handholding the SI will be required to provide comprehensive training to the concerned staff members (IT Cadre) of the Client and other concerned officers regarding implemented solution on continuous basis for a specific period and help them to resolve their issues with the newly developed system on a day to day basis to meet the Service Levels mentioned for Handholding support. The training should be focused on providing knowledge transfer to the staff members of the Client so as to increase their awareness and acceptability of the application and the new computerized system as a whole.
- The SI would bear the cost of providing the training; supply of course material, any consumables, and IT infrastructure required for training etc. while Client would provide the training premises.
- The physical presence of the key personnel of System Integrator is required during the knowledge transfer and hand-holding to train and enable Aavin personnel to use, maintain, operate and enhance the system through their own personnel strength.

Continuity of operations

- As and when newer versions of system or application software are introduced within the currency of handholding support, SI would provide required training documentation along with each release of patch / upgrade and would provide training to the concerned officers.

- In case of new additions to the staff members in Client, the SI would be required to provide the aforementioned training to them as well, during the currency of handholding support.

Employees

- Promptly on reasonable request at any time during the exit management period, the SI shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to Client a list of all employees (with job titles and communication address) of the SI, dedicated (full time or partly, including history of such employees / personnel / consultants who have provided services on this project) to providing the services at the commencement of the exit management period;
- To the extent that any Transfer Regulation does not apply to any employee of the SI, Client or Replacing SI may make an offer of employment or contract for services to such employee of the SI and the SI shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the Client or any Replacing SI.

Rights of Access to Information

At any time during the exit management period, the SI will be obliged to provide an access of information to Client and / or any Replacing SI in order to make an inventory of the Assets (including hardware / Software / Active / Passive), documentations, manuals, catalogues, archive data, Live data, policy documents or any other material related to the E-Governance Project.

Exit Management Plan

In case of the expiration / termination of contract, the SI is required to present an Exit / Handover Plan detailing the various activities including roles and responsibilities during the transition at least 6 months before the expiration / termination of the Contract. The client shall request amendments and / or approve changes to the plan which shall then be executed by the SI. Detailed steps to be followed before and after the transition will need to be placed and the potential impact on all stakeholders must be documented. It is estimated that the execution of the plan will take not less than one month. The SI will ensure a successful handover of all facilities to the Client and provide all necessary support and documentation for the same.

- SI shall provide Client with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the SLA as a whole and in relation to the Project Implementation, the Operation and Management SLA and Scope of work definition.
    - A detailed program of the transfer process that could be used in conjunction with a Replacement SI including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;
    - Plans for the communication with such of the SI, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on E-Governance Project's operations as a result of undertaking the transfer;
    - Plans for provision of contingent support to E-Governance Project and Replacement SI for a reasonable period (minimum one month) after transfer.

i. SI shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.
ii. Each Exit Management Plan shall be presented by the SI to and approved by Client or its nominated agencies.
iii. The terms of payment as stated in the Terms of Payment Schedule include the costs of the SI complying with its obligations under this Schedule.
iv. During the exit management period, the SI shall use its best efforts to deliver the services.
v. Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule.
vi. This Exit Management plan shall be furnished in writing to SI or its nominated agencies within 7 days from the receipt of notice of termination or six months prior to the expiry of Agreement.

Knowledge / Systems Transfer and Lessons Learned

As part of this assignment, the selected SI would be required to proactively transfer the knowledge, know-how and other "soft tools of trade" to the Purchaser.

The Knowledge Transfer should include the mandatory Training plan and may contain one or more of the following:

- Handholding Technical Staff enabling them for Systems Development Work
- Handholding Systems Administration Staff to ensure effective administration and monitoring of the solution and in performing any emergency fixes as may be required.
- Coordinating with senior staff in day to day Project Management to enable them to effectively manage IT projects.

The SI is encouraged to use techniques as Work Shadowing and other standard acceptable tools and techniques so as to ensure that the Client and the SI personnel operate as a good team from the beginning of the project.

The Bidders may list down a prospective plan for the same.

7.18. Miscellaneous Requirements

The following are the broad level miscellaneous requirements to be met by the system:

- General Requirements: Unless otherwise specified, all shared output and input devices must be capable of handling A4 and A3 standard sized paper apart from Legal and Foolscap paper sizes.
- Printers: the solution must be able to have reports printed in A4 and A3 size standard paper and standard Note Sheets. Printing should also be allowed for special paper sizes (such as receipts, etc.) which may be of a smaller length than the standard A4 size paper.
- Scanners: the solution developed should be able to accommodate scanned images in varied formats as JPEG / ISO-TIFF / BMP, etc.

Data

- Ability to import data from word, excel and other popular formats. Ability to import data from Oracle, SQL Server and other database as required
- Ability to export data to email as attachments

Security

- Data encryption in storage and transportation
- Role, Task, User, Screen and Field based security
- Implementation of Digital Signatures
- Implementation of Trusted System (hardware and software) identifiers
- Isolate sessions such that crashes in one session do not affect the other
- Provision of using digital signatures at every level in the work flow
- Monitor and track viruses and network attacks
- Provision of Biometric (Finger Print) based system logins.

Architecture and Integration

- Application should be Web-enabled, i.e., all functions can be accessed over internet as well as should be a console based where each client can connect to centralized infrastructure in an offline and online mode using intranet.
- DR facility and Business Continuity Planning
- Content delivered via a web browser must be compliant with WWWC standards. Solution supports the latest and pre-latest major releases of the following web browsers as Internet Explorer, Firefox, Chrome and Safari
- Data entry and viewing from mobile platforms as Blackberry, Android, IPhones, Windows Phone, WAP etc.
- Solution provides toolset(s) accommodating application maintenance, report design, development, generation, and distribution, Security administration, Archiving, Purging, Recovery of data, Re-start, recycle rejected or error ad-hoc/batch transactions
- Public facing portals support multiple languages - English and Tamil are a Requirement
- Ability to configure all screens with "branding" for Aavin
- Solution supports Attachments of files as database content, reference to file server or files in a document Management system

Others

- Automatic mailing of Bills / Notices to the E-Mail ID
- Cheque Dishonour and Outstation Cheque charges
- Facility for online tracking of bounced checks
- E-Mail / SMS to be sent to the owner upon transactions and in various states of each transaction
- Facility of issuing an automated / manual acknowledgement.
- Appropriate numbering schemes to be implemented, for example for Invoices, Bills, Demands, Communications, etc.
- Provision of escalation, in case of delayed or pending cases to be incorporated
- Provision of automated script for taking backup

- Provision of scripts for automated synchronization to the database as the connectivity with the database server at TNSDC is restored
- Provision of printing at every stage of the workflow
- Provision of generating separate printing, updating, modifying, deleting, cancelling logs during the service delivery
- Provision for role based login at each level of TCMPF
- Provision of remote monitoring and maintenance of the application
- Customizing application as per the requirements of TCMPF
- Provision for MIS based monitoring and reporting should be available
- Provision for defaulter list should available
- Provision for computing penalties wherever applicable
- Integration with other systems such as e-Office, e-biz, e-Procurement, web portal, electronic service delivery, etc.
- Provision of remote updation of the application and local database
- Encryption at client level

Technical Solution Requirements

Requirements relating to performance, availability, deployment, implementation, operations and others are listed in this subsection. Based on the assessment of the requirements listed below, SI shall prepare System Requirement Specifications (SRS) and obtain a formal sign-off before proceeding with the design and implementation of the solution.

- Language Support: All information technologies must provide support for the English and Tamil. Specifically, all display technologies and software must support the ISO-8859-1 and ISO 15924-TAML-346 character set and performs appropriate sorting.
- DATES: All information technologies MUST properly display, calculate, and transmit date data, including, but not restricted to 21st-Century date data.
- Electrical Power: All active (powered) equipment must operate on frequencies and voltages as specified by the State Data Centre in Tamil Nadu. All active equipment must include power plugs standard in India.
- Environmental: Unless otherwise specified, all equipment must operate in environments prevailing in the State of Tamil Nadu.
- Unless otherwise specified, all equipment must operate at noise levels no greater than that acceptable by the State Data Centre of Tamil Nadu.
- All electronic equipment that emits electromagnetic energy must be certified as standard government norms.
- **Multi-tier Architecture requirements:**
    - The Envisaged IDMS Solution would be based on a multi-tier architecture comprising of centrally located databases at State Data Centre (TNSDC) as central repository serving clients at local level.
    - CCs, BMCs, Zonal offices, MCCS, parlours shall access the central application server and the database using TNSWAN and client console as interface.
    - The application shall also be made compatible with the various mobile platforms in order to enable the access using mobile device.

- The solution needs to be architected using robust and proven software and hardware technologies like Service-Oriented Architecture (SOA) and open industry standards, as applicable
- The solution architecture should be built on sound architectural principles enabling fault-tolerance, high-performance, and scalability, both on the software and hardware levels.
- The technical architecture should be compatible with the existing systems.

- **Technology Architecture**

  - The public web server and the internal firewall a part of the public DMZ would be configured to render only those application pages that can be accessed publicly
  - Internal users of the department would be connected through TNSWAN and would access the application over intranet and / or internet as applicable.

- **Network Architecture**

  The overall networking solution would be based on a combination of Leased line, VPN over Broadband, TNSWAN and Open Internet ensuring optimum uptime at all the desired locations and for redundant connectivity using GSM/GPRS/3G.

- **Security Architecture**

  - User level security: Restricted areas of the application shall only be accessible over WAN
  - Network level security: Network traffic shall be encrypted using SSL & Secured connectivity to provide between the Location and the SDC
  - Infrastructure level security: Application infrastructure shall be hosted in a DMZ & Firewalls and IPS shall be installed to detect/prevent unauthorized activities
  - Application level security: Role based access, encryption of user credentials, data, storing of User credentials for external and internal users in separate repository.

Software Architecture Requirements

- Software architecture must support web services standards including XML, SOAP, UDDI and WSDL
- Software architecture must support appropriate load balancing for scalability and performance
- Software architecture must support flexibility in adding functionalities or applications.
- Software architecture components should utilize the high availability, clustering, and load balancing features available in the proposed hardware architecture to increase system performance and scalability features.
- Software architecture must support trace logging, error notification, issue resolution and exception handling.

Hardware Architecture Requirements

- Hardware architecture must provide redundancy and high availability capabilities; this includes servers, etc. The hardware infrastructure for the DR site can be as per the SDC specifications.
- All servers and systems must be configured so that there is no single point of failure.

- Hardware architecture should be capable of consolidating several applications / workloads in a number of servers as required.
- Servers and clients must be placed within proper security infrastructure for the solution at TNSDC as well as at local level.
- Hardware architecture must support existing Storage Area Network (SAN) & backup solution at TNSDC.

Development, Testing, Staging, and Production Requirements

- Appropriate development, test, and staging hardware environments should be provided and explained how they are related to production environment. This must be supported by explanations on how the development, test, and staging environment support the implementation activities of state level solution.
- Development and test environment should include configuration management capabilities and tools for system configuration, versioning scheme, documentation, change control processes and procedures to manage deployment of solution deployment.
- The test, development, and staging environment should include required workstations, desktops, and tools appropriate to support development, testing, and staging, and deployment tasks.
- The development, test, and staging hardware environments must include similar operating systems, software components, products, and tools to those of production environment.
- The development, test, and staging environments should be independent logically and physically from the production environment and of each other.
- The development environment should be used for development and should be configured to allow access for developers' workstations.
- The staging environment should be used for functional and user acceptance testing, stress testing, and performance benchmarking.
- The test environment should be used as a testing environment of state level solution and its software components and products. The test environment may be a scaled-down configuration of the production environment.

Security Requirements

- A secure solution should be provided at the hardware infrastructure level, software level, and access level.
- Authentication, Authorization & Access Control
- 2 factors (User ID & Password, Digital Signature, OTP over Mobile & E-Mail) with ability to extend up to 3 factor security mechanisms shall be implemented to enable secure login and authorized access to portal information and services as well as in applicable cases like attendance management, etc.
- Confidentiality of sensitive information and data of users and portal information should be ensured.

Monitoring and Management Requirements

- The solution should provide monitoring and management of the entire Solution including all hardware, software components and application.

- The monitoring and management should monitor health of software and hardware infrastructure running the IDMS solution covering operating system, database, software components, applications, servers, and other related software and hardware components. It should provide proactive monitoring, alerting and reporting.

Performance and Scalability Requirements

- The design of the solution should be scalable to handle increasing number of users.
- IDMS application should provide measurable and acceptable performance requirements for users, for different connectivity bandwidths.
- Should provide optimal and high performance Solution satisfying response time for slow Internet connections and different browsers.
- In exceptional cases, the infrastructure should be capable of handling unexpected load variations.

Implementation Requirements

- The SI will be required to deploy manpower and other project resources as per the terms & conditions of the Contract
- The SI will be required to work closely with the key stakeholders and perform detailed system requirements and analysis of state level solution to confirm and document functional / system requirement specifications for the portal and its applications to fulfil its objectives.
- The SI will be expected to carry the complete implementation and deployment of the state level solution within the timelines specified in the RFP.
- The SI is expected to develop, test, stage, and deploy all functional modules of the state level solution and any hardware components of technical & functional requirements

Operations Requirements

- The SI is expected to provide the following in support of state level operations:
- SI shall provide procedure documentation for all operations procedures, and SLA's (based on latest ITIL best practices) for all the hardware and applications provided including backup procedures, system update procedures, security procedures, failure recovery procedures, upgrade procedures, remote access procedures, user manual, SOP's, etc.
- All such procedures and documents must be submitted for review and approval by TCMPF prior to adoption. Such documentation shall be updated by the during the project term by the bidder as and when required along with the necessary approval.
- SI will be required to provide weekly statistics reports on the various services provided to users a mechanism as well as track and log all related statistical reports on the various delivery channels and access patterns.
- SI will be required to provide weekly performance reports showing health of system operations.
- SI will be required to provide Helpdesk for recording all the day to day problems and other technical incidents occur during the O&M phase. This shall also record the resolution of such incidents & problems.
- SI will be required to commit to Service Level Agreements (SLAs) that show, among other metrics, appropriate escalation procedures and guarantee corrective and preventive actions within a pre-determined time. SI is required to respond to required levels of accuracy, quality,

completeness, timeliness, responsiveness, cost-effectiveness, productivity and user satisfaction that are equal to or higher than the SLA system requirements.

Project Management

- SI is required to provide an implementation plan illustrating all functional analysis, development, testing, staging, and deployment activities.
- The System Integrator will prepare and maintain appropriate Project Management Plan. The approved Project Management Plan prepared by the SI shall be used by the stakeholders for regular monitoring and tracking project progress.
- Appropriate mechanisms, protocols, and algorithms necessary to protect sensitive and confidential data and information both during transport and storage should be implemented.
- SI is required to use standard project management tools such as precedence diagrams, critical path charts, etc. to create and manage implementation plan and schedule.
- At least 5 numbers of licenses of the Online Project Management and Configuration Management software will be provided for the use of Client and their representatives, which shall be used for review of the same.
- Agree with conflict resolution / escalation process to handle project or contractual disputes.
- SI is required to describe the proposed project structure identifying key project individuals including project manager, business analysts, software developers, QA engineers, hardware / network engineers, administrators, Change Management experts, and others.
- The Project Manager deployed by the organization should be such that he / she has financial powers upto at least 10% of contract value to get works executed without reference to senior management.
- The SI will provide warranty and insurance for all equipment provided for at least the project duration. In case of any equipment failure, the same would need to be replaced with equivalent of better specifications at the SI's expense

Quality Assurance & Acceptance Requirements

- SI is required to develop and implement quality assurance processes and procedures to ensure that the application development and operations are performed to meet the quality standards that are relevant to each area in all project phases.
- SI is required to use various tools and techniques that can make tests run easily and the results are automatically measured. In this way, testing tools provide a more cost-effective and efficient solution than their manual counterparts. Plus, they minimize the risk of human error during testing.
- In order to ensure that such a QA mechanism is effective and acceptance of state level solution, the following tests are required for acceptance:
- Unit Testing: Basic validation of developed components by developers.
- Functional / Internal Integration Testing: Validation of developed components against functional requirements and design specifications.
- System Testing: Validation of both functional and technical requirements for the integrated Solution. This could include external integration if required or it can be separated into testing phases.
- UAT: User Acceptance Testing (UAT) validation of the solution and assurance that it meets both functional and technical requirements

- Stress and Performance Testing: Load testing enabling understanding of performance and behaviour of Solution under large number of users and high-load conditions.
- Any changes performed should also be covered through appropriate regression testing.
- SI is required to describe their QA and testing approaches and procedures as well as testing tools for conducting various tests in support of the acceptance of the solution. SI is expected to follow best industry standard processes as CMM level 5, ISO, etc.
- Furthermore, SI shall describe their documentation standards e.g. Documentation description, documentation identification, content, nomenclature, etc. These standards shall be reviewed and accepted and should be updated frequently.

SI is required to commit to the following operating terms:

- All products / components / parts shall be covered under OEM warranty up to the Implementation Phase and AMC support shall commence after successful implementation.
- The warranty shall include the repair or replacement of the products / components / parts during the warranty period by the SI. The replacement products / components shall meet the related specifications without further repair or modification.
- SI shall be liable for all costs including, but not limited to, the costs of material, labour, travel, transport and living expenses associated with the collection and return of the units covered by the warranty.
- The date of manufacture or assembly of any equipment, parts or consumables, shall not be more than six months before delivery.
- TCMPF has the right to require a replacement if the repair is deemed to be impractical.
- SI ensures that replacement components shall be available for any failed component during the warranty period within 24 hours.
- SI shall guarantee the availability of spare parts and technical assistance for all components (or appropriate alternatives) to ensure the equipment would run for at least five (5) years, without major changes, at the completion of final acceptance. Six months advance notice is required on any discontinued part(s) with a suggestion for alternatives.
- SI need to define the process & methodology in their bids, for achieving the response time of engineers to respond to an incident and also for resolving such incidents as per the SLA.
- SI is required to provide additional training if the satisfaction levels/ learning does not reach 80% in evaluation/feedback from trainees, and expected to provide additional training, if required.
- The state level solution & infrastructure being provisioned by the SI shall be insured. The Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery for the entire project term.

Bidders are required to explain their warranty, maintenance procedures, and support to meet the terms and requirements outlined above.

Field Visits

The System Integrator is required to perform appropriate field visits as demanded by the scope of work. In normal cases, these field visits would be restricted to the locations specified within the state of Tamil Nadu. The System Integrator is also expected to ensure that appropriate staff is available at the field level for support, especially considering the SLA to be met. The costs for these shall be included in the Commercial Bid and no separate escalation or allowance shall be admissible during the contract duration.

Software Specifications

- System Software and System-Management Utilities - The system software should be industry standard software that is supported by at least 5 major Vendors in the marketplace.
- Database Software and Development Tools - Industry standard Relational Database Software with appropriate licenses must be used. During the contract period, all upgrades should be provided for. The development tools should be industry standards and should support latest development concepts, tools and techniques. 5 No's of licenses for perpetual use of development tools should be provided to the Client upon expiry of the contract.

System Management, Administration, and Security Specifications

General Requirements

In addition to the management, administration, and security requirements specified in each sections covering the various hardware and software components of the System, the System must also provide for the following management, administration, and security features at the overall system level.

Any item of data needs to be entered once and is then should be made available as often as necessary to all the systems that need to use it. The amount of Data Entry should be made minimal with the use of this system.

Technical management and troubleshooting

Without prejudice to anything, the entire technical management of the solution shall lie with the SI who shall ensure most optimal performance of the system and shall be responsible for troubleshooting and providing permanent fixes to any problems / issues reported.

User and usage administration

The SI will be responsible for User Account Management (Creation / Updating / Removal, etc.) and for logging all activities performed by any user.

Security and Audit

Upon successful UAT and prior to the Go Live, the SI shall arrange for independent third party testing and certification of the Software by the Standardization Testing and Quality Certification (**STQC**) Directorate or any other CERT-In empanelled IT Security Auditing Company from functional and security perspective.

Single Sign-on for accessing all the modules

Role based authentication to various functionalities mentioned in different modules with encrypted passwords. Rights can be given to Individual Users or Groups

- Flexibility to define separate Role and Designation to the users. Upon transfers of officers / employees, applications / letters / complaints pending with the employee shall remain to the role and new employee will be able to take action on these applications / letters / complaints.
- User rights to various forms should be either Create New Record or View existing Record or Edit existing record.
- Should capture exceptions to detect frauds / mistakes
- An audit trail of changes to data in the system shall be maintained to identify the users responsible for the modification. There should be a facility to create reports on audit logs.
- Information Security i.e. Integrity, Confidentiality & Availability of data to be maintained.

Scalability

- System should be built using Service oriented, Open Architecture.
- System should be able to scale up to a larger number of users and locations in terms of organization structure.
- The hardware must be configured in a plug and play model, where scalability can be achieved by simply adding in new hardware and performing minimal system software configuration. No changes or development in application or databases should be required.

System Integration

The SI would be responsible for the following tasks:

- Understand As-Is process for each of the existing applications
- Understand field level specification for each of the module
- Study the existing Departmental Applications with respect to the functionality & usability and ensure that the new application module implemented/ developed covers existing functionality of each of the module
- Study the FRS and make required changes in the To-Be Process for each module in coordination with dept. The SI shall identify and verify all the requirements and prepare User Requirement Specification (URS) Document. The Process document shall be used as a base to prepare the URS document. All the requirements identified and verified by the SI shall be referenced and detailed process maps shall be prepared. The process maps should identify stakeholders, departments, dealing hands, for the rendering of a service. The URS document shall be the based to track the functionality of the centralized application being developed by the SI.
- Using the URS document the SI shall prepare Software Requirements Specifications (SRS) document. The SRS shall clearly describe the UML based Use Cases based on the functionalities identified in URS. For each Use Case, SI should describe Sequence diagrams, class diagrams, ER diagrams and data dictionary for database descriptions, data security, encryption description, access levels for data security. The SI should follow IEEE standards 830-98 which is the recommended practice for SRS.
- Using SRS, the SI should develop Software Engineering Document (SED) describing technical architecture for applications, networking, data centre, etc. The SI should explain the configuration details of the application as well as hardware used to setup / run the applications. The SI should use IEEE standard 1016-2009 which is the recommended practice for System Design / Software Design descriptions.
- Using URS, SRS and SED documents, the SI shall prepare Software Testing Plan (STP) with test cases and pre-requisites.

- Develop required modules and integration of each of the module at various touch point across modules
- Provide required integration support with the pre-existing applications
- Develop customized functionalities to be included as part of Web-portal based on the existing applications not included as part of the Modules
- Ensure the compliance with all the required and obtain the quality and security certification from CERT-In certified agency at their own expense
- Provide a helpdesk that will take complaints/ incident reporting from reporting from the Client users and provide required support on escalations to the concerned personnel. The helpdesk shall be operated on "12x7" basis using a dedicated helpdesk tool and it has to be integrated with EMS to maintain proper logging of incidents and complaints in the system.
- Supporting Client in commissioning of Servers at State Data Centre or any other site identified by the Client to be used as DR/Backup site.
- It would be responsibility of the SI to get the 3rd party audit of the Data Centre before commencing the operations
- SI should provide operational support and maintenance services for the Term of the Project including but not limited to the overall system stabilization, IT infrastructure solution maintenance, system administration, security administration, database administration, network administration and end-user problem resolution. The Bidder/SI would have to ensure that the solution is functioning as intended and attending to all problems associated in operation of the application system.
- SI should prepare and provide to the Client documents including User Manuals, Configuration Manuals, Operational Manual, Maintenance Manuals, etc. as per acceptable standards.
- During the Contract Period, SI would be completely responsible for defect free functionality of the application software and would resolve any solution related issues including bug fixing etc. within Project Term agreed between Client and the SI.
- SI should provide the latest updates, patches/ fixes, version upgrades relevant for the eGovernance solution components.

The SI would be responsible for end to end infrastructure management during the entire project period. To enable IT support and administration, the SI needs to plan and deploy experienced manpower so as to maintain availability of services and SLAs. Infrastructure Management includes the following activities:

- Design of an appropriate System Administration policy with precise definition of duties and adequate segregation of responsibilities and obtaining the approval for the same from the Client.
- Overall management and administration of infrastructure solution including servers, networking & security components, storage solution etc.
- Performance tuning of the system as may be needed to comply with SLA requirements on a continuous basis.
- Security management including monitoring security and intrusions into the solution.
- Monitor and track server and network performance and take corrective actions to optimize the performance on a daily basis.
- System administration tasks such as managing the access control system, creating and managing users etc.
- Data storage management activities including backup, restore and archival etc.

- Attend to Client's user request for assistance related to usage and management of the newly developed IT System.
- The selected SI undertakes to ensure that regular back-up copies of data are created and maintained safely.
- Network Administration & Management consists of the following activities but not limited to:
- Administering User IDs,
- Network analysis and performance optimizing,
- Continuous monitoring and management of network during the working hours on each working day and restoration of breakdown within prescribed time limits,
- Ensuring network security and database security at all times.
- Design of Network Administration Policy and getting it approved from Client for effective and efficient management of Network resources. Network Administration would broadly include the activities:
- Network devices configuration,
- Management and tuning for optimum performance,
- Tracking the network status,
- Availability and taking the remedial and preventive actions in case of problems,
- Network fault isolation and resolution,
- Monitoring of network performance and escalation of performance deterioration to concerned authorities and take remedial actions to resolve such issues,
- Implementation/ modification of network routing policies,
- IP addressing policy as required and Documentation related to network configuration, routing policies, IP addressing scheme etc.
- The SI would also be responsible for resolution of all associated application, infrastructure and technical issues related to the infrastructure of the project. For the same the SI would be required to position a centralized team at the data centre to take care of the day to day technical issues.
- Perform SLA Monitoring with the help of NMS and EMS monitoring tools and system logs/counters.
- Auto-generation of MIS reports and alerts.

The SI would be responsible for implementing measures to ensure the overall security of the solution and confidentiality of the data. The SI would monitor production systems for events or activities, which might compromise (fraudulently or accidentally) the confidentiality, integrity or availability of the Services. This monitoring should be through the security controls including:

- Real-time intrusion detection tools
- Audit review tools
- Manual processes

The SI would develop and deploy a detailed security policy for the solution implementation & maintenance in adherence to policies and procedures as laid by ISO, PCI, CERT-IN, and GoI and provide automated compliance reports without minimal manual intervention. The security policy developed by the SI should be updated to keep the security recommendations current and the same should be implemented for the solution. The SI with the co-operation of appropriate, appointed representatives of Client would manage the response process to security incidents. The incident response process will seek to limit damage and may include the investigation of the incident and notification of the appropriate authorities. A summary of all security incidents should be made

available to the Client by SI on a weekly basis. Significant security incidents should be reported on a more immediate basis

The SI would produce and maintain system audit logs on the system for a period agreed by the SI and the Client, at which point they will be archived and stored at off-site or as desired by Client. The SI would deploy tools for automated correlation of audit logs for relevant security exceptions in real time or in near real time and take immediate remediation action.

8. Scope of Work - Phase II

This is for a period of 2 years (extendable by another 3 years or part thereof at the discretion of TCMPF) post Go-Live, wherein the Successful Bidder has to Operate, Maintain & Manage the IDMS Application on 24x7 basis as per the requirements, SLA & contract agreement. The Successful Bidder has to do Vulnerability Assessment & Penetration Testing of the application within the first quarter of operation. **The failure to successful completion & mitigation of all the risks envisaged in the application shall attract Liquidated Damages as mentioned in the section 12.45 in this RFP.**

The Vulnerability Assessment & Penetration Testing (VAPT) shall be carried out on yearly basis till the end of contract during the O&M phase. The submission of monthly SLA/performance reports should be made strictly in accordance with the Tender Document and should get necessary approval from TCMPF (AAVIN). The report SLA/Performance metrics, shall not only capture those metric asked in the tender however it shall also cover other essential metrics deemed necessary by the TCMPF (AAVIN) during this phase. In case of any breach w.r.t agreed performance metrics appropriate penalty shall be levied as per the SLA & Tender Terms & conditions. **After the configuration of the SLA reports in the EMS software, the application should be audited by the third party approved by the TCMPF (AAVIN). The cost of such audits should be borne by SI.**

Based on the Quarterly SLA reports, the yearly Audit reports should be submitted. If the maintenance terms are not effected as per tender and SLA, TCMPF (AAVIN) has the right to cancel the order and to take any such action which will be deemed fit in such circumstances. The detailed scope under each above mentioned heads are captured below.

The Successful Bidder during this phase shall,

- Operate, Maintain & Manage the IDMS Application on 24x7 basis as per the requirements, SLA & contract agreement.
- Update website regularly as directed and maintain the mail server
- Facility Management Services
- Provide manpower for operational activities at the ground level
- Operations and maintenance
- Perform mitigation measures to address various challenges envisaged during the Vulnerability Assessment & Penetration Testing of the application done by a CERT-IN certified agency empanelled by ELCOT/Govt. of India. This VAPT assessment needs to be completed within the period specified in the SLA.

The submission of monthly SLA/performance reports should be made strictly in accordance with the Tender Document and should get necessary approval from TCMPF (AAVIN). The report SLA/Performance metrics, shall not only capture those metrics asked in the tender, however it shall also cover other essential metrics deemed necessary by the department during this phase. In case of any breach w.r.t agreed performance metrics appropriate penalty shall be levied as per the SLA & Tender Terms & conditions.

Based on the Quarterly SLA reports, the Audit reports should be submitted. If the maintenance terms are not effected as per tender and SLA, TCMPF (AAVIN) has the right to cancel the order and to take any such action which will be deemed fit in such circumstances.

8.1. IDMS Application Operate, Maintain & Manage

The application developed by the SI has to be maintained for a period of 2 years (extendable by another 3 years or part thereof at the discretion of TCMPF at a later date) post "Go-Live". The SI has the responsibility to make it available as per SLA requirements.

8.2. Facility Management Services (FMS)

All the hardware shall be covered under 5 years (effective from date of Go-Live) AMC. The SI should also provide AMC for all the hardware during the implementation phase apart from the five year AMC mentioned above. SI shall maintain adequate spares to meet the SLA & Tender requirements. The connectivity shall be maintained as per SLA & tender terms & conditions. The SI shall engage in necessary mock Disaster Recovery drill to ensure "Business-as-usual" status continuously. The SI shall plan for preventive maintenance strategies to ensure the availability of hardware in the project. The following activities should be part of the FMS services extended by the SI to the TCMPF (AAVIN):

- The AMC for hardware provided at all the TCMPF (AAVIN) locations by the SI immediately after starting the implementation should also cover the period from the commissioning of the hardware to the Go-Live and further 5 years from the Go-Live.
- AMC for IT hardware for all the locations shall be provided by the SI after the expiry OLB contracts for the remaining period of the SI's contract with the TCMPF.
- AMC for SDC, DRC infrastructure
- Maintenance of Network Connectivity to meet the SLA requirement. The SI should deploy adequate technical support manpower to ensure high availability of the connectivity.

8.3. Operation & Maintenance

The SI shall adequate manpower for overall operation, maintenance & management of the TCMPF (AAVIN) application. The O & M team shall be by the SI shall take care of all networking, hardware maintenance and & software related issues. All issues shall be centrally tracked & monitored through a help desk system. The front-ending support staff shall have L2 level domain professionals who need to be available for resolution. These L2 domain experts shall be headed by a set of zonal in-charge & a project manager. Zonal in-charge shall take care of administrative activities in their respective zones through the support staff. The SI shall ensure necessary on-job training is given to their support & zonal in-charges.

The SI should deploy the following minimum number of Manpower for running O & M operations –

- One technical manpower per office, 1 Project Managers, 4 District leads, 1 training manager, 1 helpdesk manager and others as required should be deployed by the SI for successful maintenance during the 2 years period except the training manager who may be required only during the period when training for the department staff is carried out.
- 3 Programmers (Full time Equivalent) at the disposal of TCMPF to customize the application as needed - There would be an exclusive Application Support Team (a team of developers who would be used to develop new modules, add-ins / on, modify work flow, build enhancements and other related activities) of minimum of 3 members under the disposal of the TCPMF who shall be responsible for configuration level changes in the IDMS Application. This shall include periodic as required security audit and any other costs required to host the application on to the servers.
- SDC / DR support team inclusive of network expert, database administrator, system admin, etc.

The MIS reports of the effective performance, utilization of the resources are to be submitted periodically to the TCMPF.
The O&M will be initially for a period of two years, extendable by the client for another period of 3 years or part thereof at the discretion of the client.

User support (Help Desk) / hot line

User Support would be required during all working hours (and extended hours in essential cases). The following modes of support must be provided:

- Assistance through Telephone
- Assistance through E-mail
- Assistance through online help/Chat
- Assistance through direct visit.

Initially the problem could be notified and corrected over the phone. However, if the problem is of a complex nature it should be escalated or assigned appropriately to the designated level for analysis and rectification.

The SI will create a computer based system to log all incidents, either observed or reported. These would be assigned a priority and managed as per industry standard procedures. This system shall be implemented immediately before supply of all User Hardware or the first user related services / supply is on board and system and manpower for assistance shall be adequately deployed by the SI.

Unresolved issues should be automatically escalated to the next level if not resolved to the satisfaction of the user within the time concerned. Except for the case of working of the External portal, it is expected that normally all issues will be logged and raised within working hours on working days. Any unreasonable delay in issue resolution may attract a penalty as decided by the Client.

The Vendor is required to produce a periodic (daily / weekly / monthly) report and MIS containing details of issue, raised by, resolution, time and SLA adherence in a format as required.

Application Software Enhancements / Modifications Customizations

In case the Client requires any modifications or enhancement in the deployed application, the services of the SI's staff as per the requirement of the Change should be deployed. This change would form the part of change management process, SI will be asked to submit a formal change request note along with the man-month effort estimation and schedule of deployment of resources.

SI is required to deploy three full time personnel resources for maintenance / enhancement during the contract period.

If additional personnel resources are required, commercial rates specified by the SI for various categories of resources will be taken as base for reviewing the change request submitted by the SI. Post the approval of the Client, the Change request will be processed and the activity can be completed.

Post Implementation Services

SI would be completely responsible for the defect free functioning of the application software and would undertake following as part of ATS for Application Software:

- Resolve any issues including bug fixing, improvements in presentation and/or functionality and others within a duration mentioned in Service Level Agreement.
- Provide the latest updates, patches / fixes, version upgrades relevant for the software components.
- Software version management and software documentation management reflecting features and functionality of the solution.

Annual Technical Support (ATS) for all Software components Supplied under this project

- Provide the latest updates, patches / fixes, version upgrades, etc.
- SI has to ensure that annual technical support is available for all the software application/ modules and operating systems, databases is available for the entire O&M phase.
- Software version management and software documentation management reflecting features and functionality of the solution.
- Database / Application Software tuning to enhance the performance of the overall system
- Undertake regular, proactive Database Management activities.

Infrastructure Management

Infrastructure Management includes the design of an appropriate System Administration policy with precise definition of duties and adequate segregation of responsibilities and obtaining the approval for the same from the Client. System Administration includes the following activities:

- Overall management and administration of infrastructure solution including servers, security components, storage solution, Networking equipment, Lease lines and others.
- The SI has to co-ordinate with other vendors, wherever required/applicable
- Performance tuning of the system as may be needed to enhance system's performance and comply with SLA requirements on a continuous basis.
- Security management including monitoring security and intrusions into the system to maintain the service levels as per SLA defined. SI will adhere to the Security Policy adopted by the Client.
- Monitor and track server performance and take corrective actions to optimize the performance on a weekly basis.
- Escalation and co-ordination with other vendors for problem resolution wherever required within stipulated time as mentioned in SLA.
- Data storage management activities including regular backup, restore and archival activities.
- Support to system users with respect to attending to their requests for assistance in usage and management of the application.

Whenever a component has to be replaced because of technical, functional, manufacturing or any other problem, it shall be replaced with a component of the same (or better) make and configuration. In case the component of same make and configuration is not available, the replacement shall conform to open standards and shall be of a higher configuration specifically approved by the Client.

8.4. SDC and DRC management & maintenance

The SI has to provide support in maintaining the SDC and DRC infrastructure. At SDC and DRC, SI will be doing shared maintenance of the TCMPF (AAVIN) infrastructure.

Operational Support

The main objective of Operational Support would be to ensure efficient and reliable management of the IT infrastructure and services required for running the solution and related applications and hardware / networks during the contract period.

The support should cover all aspects of the following services:

- Systems Administration
- Network Administration
- Database Administration
- Communication Management Services
- Disaster Recovery Services
- Software Update Management Services
- Maintenance Services
- Help Desk Services

Support must be for the entire duration of contract of entire equipment, including, but not limited to:

- Management of all servers, peripherals, network equipment and connectivity (that is the responsibility of the SI) to ensure at least 99% uptime.
- Resolving all problems pertaining to all servers, peripherals, network equipment and connectivity to ensure at least 99% uptime for all equipment. This would include interfacing with all other third party vendors, ISPs, agencies involved in running of the IT infrastructure.
- Resolving all problems and issues at all locations with respect to anything concerning the application.
- Carrying out preventive maintenance in addition to corrective maintenance.
- Systems administration activities such as managing security / access systems, ensuring server backups, disk management etc.
- Replacement of systems / equipment that is non-functioning.
- Any other related activities required to be performed.

Providing facilities management services shall be the responsibility of the SI during the contract period. Detailed descriptions of activities proposed to be covered under different area of service of Facilities Management are outlined below:

Systems Administration Services

Availability of system resources must be ensured under all circumstances. The Systems Support/Administration services should broadly include (but not limited to) the following:

- Taking system backups (Back up of Servers).
- Installation and Reload Support for Desktop OS and other licensed products to ensure appropriately working desktops.

- Installation and Reload Support for Server OS.
- Configuration, Re-Configuration, Patch Management for licensed products. (Applicable for Desktop OS and Server OS).
- Installation and Reload Support for Application software.
- Rectification of system software problems due to crashing or malfunctioning of the OS, RDBMS or front end (User Interface), within the time limits prescribed.
- Installation of upgrades of system software namely, OS (Both Desktop OS & Server OS), RDBMS.
- Guarding the systems against virus infections using the latest anti-virus tools and updates / upgrades.
- Ensuring that system components proactively alert in advance of failure.
- Support and maintenance of proprietary applications of different departments on the mutually agreed terms.

Network Administration Services

The Network Support / Administration services should broadly include (but not limited to) the following:

- Administering problems related to Creation/Updating/Deletion of User ID's/Accounts.
- Providing user level help in logging on to the Network and other related activities.
- Maintaining security and access protocols.
- Helping Users to use common resources on the Network. For instance, setting up of Network File Sharing to facilitate sharing of files and folders across the network.
- Continuous monitoring of network traffic, management of network & restoration of breakdown within prescribed time limits. The main services to be administered under Network Management include:
    - Fault Management - Detection and communication of errant network behaviours.
    - Performance Management - Reports must be generated on a regular basis for networked systems.
    - Configuration Management
    - Security Management - Network usage must be monitored to identify and repel unauthorized users.
    - Accounting Management - Network usage must be monitored to measure system resources consumed.
- Co-coordinating with warranty providers for repair/replacement of faulty hardware / software / points / cables and other related issues.
- Replacement of defective and defected equipment during the contract and maintenance period.
- Support for Network Base lining and Optimization – Base lining process should:
    - Gather statistics on hubs, routers, switches, servers, etc.
    - Evaluate the logical and physical designs of the network.
    - Review the performance of network applications.
    - Provide a snapshot of current network operations when required.

Database Administration Services

The Database Support/Administration services should broadly include (but not limited to) the following:

- Installation & Configuration of Database servers.
- Efficient Management of Devices, Databases, User Accounts, Access rights & Transaction logs.
- Data Backups & recovery in case of database crashes.
- Setting up of alerts for monitoring performance of database servers.
- Fine-tuning of database server (operating system, if required)
- Handling queries related to import / export of databases and database utilities.
- Replication of data on mirrored databases.
- Data distribution and integration with other databases.

Disaster Recovery Services

The SI should work out the scope the recovery in light of the possible disaster scenarios. The solutions and possible pro-active measure should be worked and in place. These should include (but not be limited to):

- Daily backups of databases.
- Keep log of error messages encountered and remedial actions/measures taken.
- Ensuring a proper log of all the backups taken.
- Ensuring that proper and adequate storage (e.g. fire safe, moisture free environment) is provided.
- Ensuring that a duplicate premises is maintained with a mirror copy of all the databases
- Ensuring that a new version of the software is introduced in the production environment in a controlled fashion and is monitored for a reasonable period.

Software Update Management Services

The Software Update Management services should broadly include (but not limited to) the following -

- Re-Installation of the new versions of standard application software.
- Providing additional reports and additional functionality in existing modules
- Providing technical support to users

Hardware Upgrade Management Services

The Hardware Upgrade Management services should broadly include (but not limited to) the following

- Procurement, installing and commissioning of relevant Hardware equipment to make sure all hardware are performing optimally
- To upgrade hardware during the contract duration to meet the current demands of the user, data and other requirements as may be possible. This will include up- gradation of the Servers, Processor, Storage, Channels, Cabling, etc.
- Every six months, the SI is required to present an Upgrade document which details all the equipment installed with their detailed configurations, proposed upgrades and resultant impacts. The client may at its discretion allow or not allow the upgrades.
- Providing technical support relating to hardware issues.

Maintenance Services

Maintenance service should provide flexible support to meet the user's business needs. The maintenance services of systems should include (but not limited to) the following –

- Preventive maintenance – Should include carrying out the necessary repairs and fitting of replaced parts wherever applicable.
- The SI would arrange regular training / software workshops for improving the skills of the employees in proper usage of the hardware and its day-to-day maintenance.

Methodology

The O&M must adhere to minimizing any disruptions and equip the user to work in an efficient environment. These would include, but not limited to:

- Analysis and sizing up of the facilities to be provided in terms of hardware, software, connectivity, and personnel.
- Propose a detailed plan for the maintenance of the resources
- Produce a written manual specific to the organization for the operations of the team and clearly stating their responsibilities.
- Document a detailed mechanism for redress of user problems. The analysis of the problems and their solutions should be identified and a plan of action for immediate, short term and long term must be worked out.
- Monthly meetings with management must be held to discuss the performance during the month.

Expected Outcomes and Deliverables

The major outcomes of the project at the minimum include (but not limited to) the following:

- Simplified Support Management
- Integrated Services
- Consistent Delivery of support services.
- Reduction in System interruptions and Downtime and system for data recovery.
- Improved user satisfaction

The major deliverables of the project at the minimum, including but not limited to the following:

- Reporting formats for Facility Management
- Periodic (Daily / Weekly / Monthly) summary of all Facility Management Services provided.
- Ad-hoc inspection reports.
- Manual containing the solutions to the frequently encountered problems, compiled with the assistance of Facility Management Personnel
- Comprehensive maintenance and support for the entire IT infrastructure

8.5. Periodic Security and Performance Testing & conformance

SI shall conduct Security and Performance testing by any CERT-IN empanelled agency designated by the TCMPF (AAVIN). All Non-conformance & vulnerability aspects need to be immediately mitigated & closed before 2 weeks of succeeding quarter. In case of any default there would penalty levied as per SLA & Tender conditions.

8.6. SLA monitoring

The Service Level mentioned in these tender needs to be captured, analysed & reported to the TCMPF (AAVIN). The Department Nodal Officers and their agents shall review the SLA reports & ratify the same. Based on the ratification, PIC shall approve the SLA/performance report. The SI shall get his payment after deducting penalties, if any.

8.7. O&M Phase Extension and Knowledge Transfer

After the expiry of O&M phase, the SI should continue to provide support for an extended O&M phase of 3 months if the TCMPF (AAVIN) is not able to bring any replacement in time. The O&M phase may be extended by another 3 months by TCMPF (AAVIN). If O&M phase extension is required further, then the TCMPF (AAVIN) can seek extension of another 6 months on mutual agreement. The payment for the first six month extension will be same as quarterly payment during the O&M period. The payment for the extension will be made proportionately as per the actual extended period. Payment for the next 6 months period will be done on a mutually agreed price.

The SI would be required to do knowledge transfer of the operations, responsibilities to the department / new System Integrator / Vendor for a period of minimum 1 month to 3 months with limited manpower and should transfer all responsibilities to the new team. As soon as a new System Integrator / Vendor is on-board, the O&M extension will end and knowledge transfer will start. During the knowledge transfer, the SI will not be paid.

In case Aavin decides to renew the O&M for the SI, the same shall be at the rates per year which shall be the minimum of:

- The rate for O&M per year quoted by the System Integrator in the Commercial Bid
- Rate for maintenance as in the Payment Milestones.

8.8. Scalability, software upgrades

All vertical upgrades within supplied IT computer & networking infrastructure shall be responsibility of the SI. The necessary patch updates, software upgrades for already supplied hardware and software by SI, shall be the responsibility of the SI.

8.9. High availability of application services

In case of failure of the network connectivity / Bandwidth, the application should be able to use the local infrastructure available at the TCMPF (AAVIN) offices to store & render the required services. When connectivity is restored, the offline transactions should then be pushed to SDC.

8.10. Integration with Mobile Service gateway

Integration with Mobile service gateway provided by Govt. of India/NIC should be done by the SI. The cost arising due to installation and maintenance of the integrated SMS service should be borne by the SI. The recurring cost of SMS should be borne by the department.

9. Implementation Schedule

The table below shows the implementation schedule as required for this assignment. The key milestones for each of the phase include:

Day Mark	Project Milestones	Key Deliverables	Deliverable Date (from D0)
D0	LOA		
D1	User Hardware Procurement	Verification Report, MIS from Asset Management and Tracking System	Within 60 days
D2	Submission of SRS (Design)	• Inception Plan • Project Implementation Plan • System Requirement Specifications (SRS) • Implementation Strategy for pilot • High Level and Low Level Design – Data Model • Application architecture documents • Application component design including component deployment views, control flows, etc.	Within 180 days
D3	Development & Integration	• Fully functional IDMS application • User and Operational Manual	Within 240 days
D4	Acceptance Testing (PAT, UAT)	• Functional and non-functional testing • Application flows and logic. • GUI design (screen design, navigation, etc.). • All Test Plans	Within 270 days
D5	Server Hosting	Report on Server Hosting / PO's / Bills	Within 270 days
D6	Security Auditing	Certificate from Security Auditor and Invoice	Within 330 days
D7	Pilot Implementation	• Knowledge Transfer plan • Risk identification & mitigation Plan • Issue Logs • SLA and Performance Monitoring Plan	Within 360 days
D8	Training	• Training, Change Management and Capacity Building Plans • Training Survey Feedback and Compiled Report	Within 510 days
D9	Rollout	• Knowledge Transfer • Risk identification & mitigation Plan • Issue Logs / Roll out Report	Within 450 days
D10	O&M	Periodic Maintenance and Enhancement Reports	For 2 Years after Go Live
D11	Exit Management (Knowledge Transfer)	• Knowledge Transfer plan and Execution Result	Before end of O&M Phase (as extended)

There are multiple activities that can be performed in parallel and the SI is expected to make the best use of time.

Sl. No.	Project Milestones	No. of Days / Approx. Months	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
D1	User Hardware Procurement	60																																							
D2	Submission of SRS (Design)	180																																							
D3	Development & Integration	150																																							
D4	Acceptance Testing (PAT, UAT)	60																																							
D5	Server Hosting	120																																							
D6	Security Auditing	60																																							
D7	Pilot Implementation	60																																							
D8	Training	240																																							
D9	Rollout	90																																							
D10	O&M	720																																							
D11	Exit Management (Knowledge Transfer)	1170																																							

The graph is for illustration purposes only showing that some deliverables can be performed in parallel.

Within these times, at least 10% of time should be provided to Client for their review and comments.

10.Indicative Resource Requirement

The below table illustrates an indicative Team for SI for this project, bidder is free to provide better.

S. No.	Type of resource	Minimum qualification
1.	Project Director	*Advisory Capacity*
2.	Project Manager	PMP / PRINCE Certified
3.	Application Development Manager	OEM Certified (MCSE, etc.)
4.	Configuration / Release Manager	OEM Certified
5.	Business Analyst / Requirement Gathering Expert	Business Analysis certified with experience
6.	Domain Expert	Previous experience in Dairy Domain
7.	Information Architect / Data Design Expert	Information Management and Data Modelling experience.
8.	UI / UX Expert	UI / UX design and development experience, especially with modern Flat UI systems.
9.	Training / Capacity Building / Organizational Change Expert	Training experience
10.	Network Specialist	OEM Certified
11.	Data Centre Expert	Data Centre Design and Operations experience

Other Specialists

12.	Helpdesk Manager	ITIL Certified or equivalent
13.	Programmers	Technology certified/other relevant certifications
14.	Database Expert/ Administrator	OEM certified level 2 / 3
15.	Network Expert/ Administrator	CCNP/CCSP/CCIE
16.	System Administrator	OEM Certification (MCSA etc.)
17.	Server Admin	OEM certified
18.	Mobile Technology – domain expert.	Previous experience in m-Governance application in the country
19.	Help desk resources	OEM certified
20.	Field level service personnel.	District Level: B.E./Diploma in Computer Science, ECE, IT/BCA/MCA with 1 year experience Taluk Level: Diploma in Computer Science, ECE, IT/BCA/MCA with 1 year experience
21.	IT Security domain expert	Certified domain experts.

The Bidder is expected to choose the appropriate team with due care and diligence so as to meet all the obligations in this RFP with a standard that is expected of a professional technology and services firm. All mentioned personnel should be available for meetings at any Aavin location at a short notice.

11.Service Level Agreement (SLA)

11.1. Implementation Phase SLA Criteria

11.1.1. Project Timelines

The following timelines and SLA terms will apply to the milestones which are to be achieved during the pilot phase of the Project. The deliverables for each milestone is discussed in detail in Section 9 of this RFP.

A Penalty of 1% of the Total Contract Value per month or part thereof, capped at 10% of Total Contract Value, shall be charged from the SI towards delay in implementation of the project during the implementation of the Project. The Penalty will be charged towards delay of key milestones which are: **Submission of SRS, Pilot Implementation and Roll out**.

This is apart from other penalties related to Operations of the assignment.

11.1.2. Deployment of resources as proposed by the SI

In case of any change in the original proposed resource, a prior approval from the TCMPF (AAVIN) should be taken and only a better resource can be considered for change. TCMPF (AAVIN) can approve the change of a resource if the resource has resigned or has a valid exceptional reason for change. Change of location within the same organization shall not be considered a valid reason. In all other cases, when the SI insists on a change, TCMPF may levy a penalty of Rs. 10 lakhs per change of resource. **This SLA shall be valid during the implementation and O&M phases.**

11.2. Operations & Maintenance - SLA Criteria

Post the application Roll-Out a single comprehensive operations SLA to measure the SI's operational efficiency shall be enforced for all the locations. This SLA shall cover the entire geographical scope taken for implementation. The following SLA may be further enhanced taking into consideration the learning & challenges faced during the pilot implementation.

If the SI performs as per the baseline metrics, then 100% of the amount of the quarterly payment due will be paid to the SI as per the payment terms specified. However, if the SI falters in one or more of the SLA resulting in lower performance or breach, then penalty deduction would be appropriately levied as per table below subject to maximum penalty of 10% of quarterly payment. In case the SI's penalty crosses the maximum limit of 10% of quarterly then the TCMPF (AAVIN) may decide to terminate the SI's contract.

S. No.	Service Level Parameters	Baseline	Breach		Basis of Measurement/ Remarks
			Metric	Deductions (%)	
1.	Average availability of web-based application over the Internet/Intranet	98.5%	For every 0.5% drop from Baseline measured every day	0.5% of Quarterly Payment Due	Measured using the EMS tool on a daily basis. Non-availability of any of the services would amount to deviation.
2.	Time taken to load the web-based application Portal page at any time	<2 sec	For every second or part thereof drop from the baseline	0.5% of Quarterly Payment Due	Speed measured over a leased circuit or equivalent at 2 mbps bandwidth
3.	Resolution of Critical* calls	< 8 hours	For every 1 hour or part delay thereof	0.01% of Quarterly Payment Due	Faults will be logged by the helpdesk on the EMS, as and when alerted by users by e-mail/fax/call. SLA is applied if SI is found to have failed once in case of critical fault and thrice in case of non-critical fault.
4.	Resolution of critical calls * pertaining to application unavailability	*< 5 hour per call*	For every 1 hour or part delay thereof	1% of Quarterly Payment Due	
5.	Resolution of critical calls related to unavailability or non-working on Applications related to all Dairy's outgoing distribution	*< 1 hour per call*	For every 1 hour or part delay thereof	5% of Quarterly Payment Due	
6.	Resolution of Non-Critical* calls	< 24 hours	For every hour >24 hours	0.01% of Quarterly Payment Due	

S. No.	Service Level Parameters	Baseline	Breach		Basis of Measurement/ Remarks
			Metric	Deductions (%)	
7.	Adequacy of Training	>80% satisfaction index.	NA	NA	Satisfaction levels measured through feedback questionnaires circulated to Trainees. (Questionnaire to be finalized by SI and TCMPF (AAVIN). In case of any candidate scoring less than 80% marks the respective candidate would need to be re-trained. If in each batch, more than 5% of the candidates provide a score of less than 80%, that batch would not be considered in the training count.
8.	All vulnerabilities/non-conformance reported shall be resolved within 14 days	Resolved within 14 days	For every 1 day beyond 14 days	1% of Quarterly Payment Due	Approvals have to be obtained from the department after conducting Vulnerability Assessment and Penetration Testing (VAPT) and resolving the issues raised. If multiple approval iterations are involved, then last submission date for approval will be considered for SLA imposition. This SLA is applicable per instance.
***Critical & non-critical calls have been defined in section 7.5.7** *** Penalty for SLA violation for Operations and Maintenance shall be subject to a cap of 10%. However, in exceptional cases, Aavin has the right to remove this cap. Exceptional cases may include SLA violation occurring where calculated penalty is more than 25% or where despite repeated reminders, the SI has not performed course correction on a valid suggestion by TCMPF, or on any other circumstances as may be determined during the course of the project.**					

Performance related calls logged pertaining to hardware and software may be classified as critical and non-critical. The threshold for various non-critical calls may be defined later pertaining to memory utilization, response time, CPU utilization, etc. SLA for performance related calls have already been specified above.

The SLA's shall also be valid post Pilot stage for the specific locations. Each of instances of Quarterly Payment Due in the above table shall be referred to as 50% of the Contract value and non-meeting of SLA's shall be prorated to the number of locations in the pilot.

12.Model Master Agreement

Format of the contract to be entered between successful bidder and TCMPF (AAVIN) is given below:

This CONTRACT is made and entered into on this ….. day of …….. by and between "Tamil Nadu Co-operative Milk Producers' Federation Ltd.", (hereinafter referred to as TCMPF (AAVIN)which expression shall include its successors, administrators, executors and assignees) on the one part and M/s ……., with its Registered office at …… referred to as the "SYSTEM INTEGRATOR" (which expression shall include its successors, administrators, executors and permitted assignees) on the other part.

Whereas TCMPF (AAVIN) has desired for software development, hardware supply, maintenance and other related activities for carrying out TCMPF (AAVIN), IT operations conforming to specifications as set forth in the Scope of Work in this RFP document Volume I.

And Whereas the SI represents that it has the necessary capabilities for carrying out TCMPF (AAVIN) IT operations as referred to herein and has submitted a bid for providing the required services against Tender No……. all in accordance with the terms and conditions set forth herein and any other reasonable requirements of the TCMPF (AAVIN) from time to time.

And Whereas TCMPF (AAVIN) has accepted the bid of the SI and has placed Letter of Acceptance / Notification of Award vide its letter …….. Dated…. on the SYSTEM INTEGRATOR.

Now it is hereby agreed to by and between the parties as under:

12.1. Definitions

In this Contract, the following terms shall be interpreted as indicated:

a. "**Business Day"** means any day that is not a Sunday or a public holiday (as per the official holidays observed by TCMPF (AAVIN);
b. **"Confidential Information"** means any information disclosed to or by any Party to this Contract and includes any information in relation to the Parties, a third party or any information with regard to any registrant, or any other person who is covered within the ambit of any legislation related to TCMPF (AAVIN), including any such information that may come to the knowledge of the Parties hereto / Bidder's Team by virtue of this Contract that:
    i. is by its nature confidential or by the circumstances in which it is disclosed confidential; or
    ii. is designated by the disclosing Party as confidential or identified in terms connoting its confidentiality;
    iii. but does not include information which is or becomes public knowledge other than by a breach of this Contract;
c. **"Contract"** means the Agreement entered into between the TCMPF (AAVIN) and the "System Integrator" as recorded in the Contract form signed by the TCMPF (AAVIN) and the "System Integrator" including all attachments and Annexes thereto, the Tender and all Annexes thereto and the agreed terms as set out in the bid, all documents incorporated by reference therein and amendments and modifications to the above from time to time;

d. **"System Integrator's Representative"** means the person or the persons appointed by the SI from time to time to act on its behalf for overall co-ordination, supervision and project management.
e. **"Document"** means any embodiment of any text or image however recorded and includes any data, text, images, sound, voice, codes or and databases or microfilm or computer generated micro fiche.
f. **"Effective Date"** means the date on which this Contract is signed and executed by the parties hereto. If this Contract is executed in parts, then the date on which the last of such Contracts is executed shall be construed to be the Effective Date;
g. **"Intellectual Property Rights"** means any patent, copyright, trademark, trade name, design, trade secret, permit, service marks, brands, propriety information, knowledge, technology, licenses, databases, computer programs, software, know how or other form of intellectual property right, title, benefits or interest whether arising before or after the execution of this Contract and the right to ownership and registration of these rights;
h. **"Kick off Meeting"** means a meeting convened by the TCMPF (AAVIN) to discuss and finalize the work execution plan and procedures with System Integrator.
i. The **"SI"** means the company with whom the order has been placed for providing Services as specified in this tender/contract and shall be deemed to include the System Integrator's successors, representatives (approved by the TCMPF (AAVIN)), heirs, executors, administrators and permitted assigns, as the case may be, unless excluded by the terms of the contract.
j. **"System Integrator's Team"** means the successful Bidder who has to provide services to the TCMPF (AAVIN) under the scope of this Tender / Contract. This definition shall also include any and/or all of the employees of Bidder, their authorized agents and representatives and approved Sub-Implementation Agencies or other personnel employed or engaged either directly or indirectly by the SI for the purposes of the Contract.
k. **"Parties"** means the TCMPF (AAVIN) and the SI and **"Party"** means either of the Parties;
l. "**Service**" means facilities/services to be provided as per the requirements specified in this tender document and any other incidental services, such as installation, implementation, maintenance, provision of technical assistance and other such obligations of the SI covered under the Contract;
m. "**Service Specification**" means and include detailed description, statements to technical data, performance characteristics, and standards as applicable and as specified in the Contract as well as those specifications relating to Industry standards and codes applicable to the performance of the work, work performance quality and the specifications affecting the works or any additional specification required to be produced by the SI to meet the design criteria.
n. "**Sub-System Integrator**" means any person or persons or firm/company or their legal representatives, successors, assignees to which part of the contract has been outsourced by the SI after necessary consent of TCMPF (AAVIN).
o. "**The Contract Price/Value**" means the price payable to the SI under the Contract for the full and proper performance of its contractual obligations;

12.2. Interpretation

In this Contract unless a contrary intention is evident:
a. the clause headings are for convenient reference only and do not form part of this Contract;
b. unless otherwise specified a reference to a clause number is a reference to all of its sub-clauses;

c. unless otherwise specified a reference to a clause, sub-clause or section is a reference to a clause, sub-clause or section of this Contract including any amendments or modifications to the same from time to time;
d. a word in the singular includes the plural and a word in the plural includes the singular;
e. a word importing a gender includes any other gender;
f. a reference to a person includes a partnership and a body corporate;
g. a reference to legislation includes legislation repealing, replacing or amending that legislation;
h. where a word or phrase is given a particular meaning it includes the appropriate grammatical forms of that word or phrase which have corresponding meanings.
i. in the event of an inconsistency between the terms of this Contract and the Tender and the Bid, the terms hereof shall prevail.

12.3. Conditions Precedent

This Contract is subject to the fulfilment of the following conditions precedent by the System Integrator.

a. Furnishing of an unconditional and irrevocable and continuing Bank Guarantee for Contract Performance of the sum of Rs. _____/- (10% of the total contract value), in a form and manner acceptable to the TCMPF (AAVIN) (Refer Clause 4.29) which would remain valid until such time and be renewable as may be stipulated by the TCMPF (AAVIN).
b. Execution of a Deed of Indemnity in terms of Clause 12.26 of this Contract
c. Obtaining of all statutory and other approvals required for the performance of the Services under this Contract
d. The System Integrator shall become an Associate Member of TCMPF, by remitting the requisite Associate Member Fee (currently Rs. 10/-) immediately after LOA and before signing of the contract.

12.4. Representations & Warranties

In order to convince the TCMPF (AAVIN) to enter into this Contract, the SI hereby represents and warrants as of the date hereof, which representations and warranties shall survive the term and termination hereof, the following:

a. That the SI has the requisite experience in providing software development and maintenance services, the technical know-how and the financial wherewithal, the power and the authority that would be required to successfully provide the Services sought by the TCMPF (AAVIN) for the purposes of this Contract.
b. That the SI is not involved in any major litigation or legal proceedings, pending, existing, and potential or threatened, that may have an impact of affecting or compromising the performance or delivery of Services under this Contract.
c. That the representations and warranties made by the SI in the bid or will be made in this contract are and shall continue to remain true and fulfil all the requirements as are necessary for executing the obligations and responsibilities as laid down in the Contract and the Tender and unless the TCMPF (AAVIN) specifies to the contrary, the SI shall be bound by all the terms of the Bid and the contract through the term of the contract.
d. That the SI has the professional skills, personnel and resources/authorizations that are necessary for providing all such services as are necessary to fulfil the Scope of Work stipulated in the Tender and this Contract.

e. That there shall not be any privilege, claim or assertion made by a third party with respect to right or interest in, ownership, mortgage or disposal of any asset, property, movable or immovable as mentioned in any Intellectual Property Rights, licenses and permits.
f. That the SI shall use such assets of the TCMPF (AAVIN) as the TCMPF (AAVIN) may permit for the sole purpose of execution of its obligations under the terms of the Bid, Tender or this Contract. The SI shall however, have no claim to any right, title, lien or other interest in any such property, and any possession of property for any duration whatsoever shall not create any right in equity or otherwise, merely by fact of such use or possession during or after the term hereof.
g. That the SI shall procure all the necessary permissions and adequate approvals and licenses for use of various software and any copyrighted process/product free from all claims, titles, interests and liens thereon and shall keep the TCMPF (AAVIN) indemnified in relation thereto.
h. That the execution of the Services and the Scope of work herein are and shall be in accordance and in compliance with all applicable laws.
i. That all conditions precedent under the Contract has been satisfied.
j. That neither the execution and delivery by the SI of the Contract nor the System Integrator's compliance with or performance of the terms and provisions of the Contract
    - will contravene any provision of any Applicable Law or any order, writ, injunction or decree of any court or Governmental Authority binding on the System Integrator,
    - will conflict or be inconsistent with or result in any breach of any or the terms, covenants, conditions or provisions of, or constitute a default under any Contract, Contract or instrument to which the SI is a party or by which it or any of its property or assets is bound or to which it may be subject or
    - will violate any provision of the Memorandum and Articles of Association of the System Integrator.
k. That the SI certifies that all registrations, recordings, filings and notarizations of the Contract and all payments of any tax or duty, including without limitation stamp duty, registration charges or similar amounts which are required to be effected or made by the SI which is necessary to ensure the legality, validity, enforceability or admissibility in evidence of the Contract have been made.
l. That the SI owns, has license to use or otherwise has the right to use, free of any pending or threatened liens or other security or other interests all its Intellectual Property Rights, which are required or desirable for performance of its services under this contract and regarding the same the SI does not, so far as the SI is aware, in carrying on its business and operations, infringe any Intellectual Property Rights of any person. So far as the SI is aware, none of the Intellectual Property Rights, owned or enjoyed by the SI or which the SI is licensed to use, which are material in the context of System Integrator's business and operations for the performance of this contract are being infringed nor, so far as the SI is aware, is there any infringement or threatened infringement of those Intellectual Property Rights licensed or provided to the SI by any person. All Intellectual Property Rights (owned by the SI or which the SI is licensed to use) required by the SI for the performance of the contract are valid and subsisting. All actions (including registration, payment of all registration and renewal fees) required to maintain the same in full force and effect have been taken thereon and shall keep the TCMPF (AAVIN) indemnified in relation thereto.
m. That time is the essence of the Contract and hence the SI shall at all times maintain sufficient manpower, resources, and facilities, to provide the Services in a workmanlike manner on a timely basis.
n. That its security measures, policies and procedures are adequate to protect and maintain the confidentiality of the Confidential Information.

o. That in providing the Services or deliverables or materials, neither SI nor its agent, nor any of its employees, shall utilize information which may be considered confidential information of, or proprietary to, any prior employer or any other person or entity;

12.5. Execution of Work Order

a. The Bidder alone will be liable or responsible to the TCMPF (AAVIN) for due fulfilment of terms and conditions of the tender including installation, commissioning, operation, management and maintenance of the entire project.
b. The Successful Bidder should nominate and intimate TCMPF (AAVIN) a Project Manager specifically to handle the Work Order from TCMPF (AAVIN) and ensure that he fully familiarizes with the terms and conditions of the tender, scope of work, Work Order and the guidelines, and is responsible to effectively execute the Work Order complying all the terms and conditions.

12.6. Assigning of Tender Whole or In Part

The Successful Bidder should not assign or make over the contract, the benefit or burden thereof to any other person or persons or body corporate except declared sub-contractors. They should not underlet or sublet to any person/s or body corporate except declared sub-contractors for the execution of the contract or any part thereof unless a proper approval for subletting is obtained from the TCMPF (AAVIN).

12.7. Scope of work/contract

Scope of the CONTRACT shall be as defined in this RFP and the Corrigendum / Addendum issued with respect to this RFP.

12.8. General Requirement

- The Bidder shall **study and understand the To-be & FRS and RFP** thoroughly
- The **service delivery shall** be of the highest quality.
- The Bidder should make his **own arrangements to obtain all the material** required for this work such as PCs, printers, scanners, adequate human resource, stationery deemed necessary at various stages of the project.
- The Successful Bidder at his own cost shall also arrange all stationary, projectors, drinking water.
- **All hardware and software** supplied by the bidder shall be **properly stored by the bidder** and they shall be responsible for its safe custody it is supplied to the respective Offices.
- All necessary use/test cases for the unit and integration testing shall be designed and prepared by the bidder under the guidance of the department.
- It shall be obligatory for the Bidder **to furnish Certificate**, if demanded by the Department **from manufacturer** or the material supplier that the work has been carried out by using their material and as per their Recommendation
- All electrical materials conforming to the Indian Standard Specification shall be used and the materials must comply with relevant standard specifications

12.9. Deviations

The tender should be for the complete scope of work and services. However, in case of any minor deviations, the Bidder should clearly and separately state the item that is in deviations in their tender. This should be clearly stated under deviations head quoting the index and serial references in Technical Specifications. Any deviation mentioned elsewhere in the tender but not clearly stated under this section should not be considered. The Bidder should also clearly indicate the services and utilities to be provided by the Department including their obligations, if any. TCMPF (AAVIN) reserves the right to consider or reject these deviations of the tender.

12.10. Training

Training will be provided by the selected bidder to the officials /staff / users according to the need basis. All the training materials (Soft copy & Hard copy) will be provided by the SI.

TCMPF (AAVIN) shall provide space for the training and the SI shall provide all other equipment related to training, including but not limited to Systems, Projector, Training Material, etc.

Detailed training schedule is provided as a part of scope of work defined in this bid.

12.11. Licenses

In case of Foreign Supplies, the Successful Bidder should arrange necessary import license and other clearances.

All the licenses related to software and hardware procured for TCMPF (AAVIN) should be transferred to TCMPF (AAVIN) and should be perpetual licenses.

12.12. Storage & Risk

The Successful Bidder should make arrangements for transportation of Hardware/Software etc., to site and build their own stores for the intermediate storage of equipment, maintain the stores and all related documents and records, transport the equipment to site. SI shall at his own expense adopt suitable Risk Management methodology to mitigate all risks assumed by the SI under this CONTRACT. SI shall underwrite all the risk related to its personnel deputed under this CONTRACT as well as equipment and components of the TCMPF (AAVIN), procured for the Aavin, equipment, tools and any other belongings of the SI or their personnel during the entire period of their engagement in connection with this CONTRACT and take all essential steps to reduce and mitigate the risk. Tendering Authority or State Government will have no liability on this account.

12.13. Duration of the contract

The CONTRACT shall remain valid for implementation period till Go-Live (Completion of Roll Out) and for another 2 years for operation and maintenance. The same can be extended by another 3 years or part thereof by TCMPF (AAVIN) at the minimum of the following quarterly rates: Quarterly rate as determined from the Commercial Bid OR Quarterly Payment as determined by the Payment milestone in the contract. In case the contract is extended by another 3 years of part thereof, the

payment for Exit Management (Knowledge Transfer) shall be extended till the end of the said extended period.

12.14. Performance Bank Guarantee

The Successful Bidder will be required to remit the Performance Bank Guarantee equivalent to 10% of the value of the work order inclusive of EMD in the form of unconditional irrevocable Bank Guarantee as per the sample format valid for a period of four years from the date of LOA, within fifteen days from the date of LOA. If the accepted Bidder fails to remit the Performance Bank Guarantee within the above said period, their tender will held void and the Earnest Money Deposit remitted by them will be forfeited to TCMPF (AAVIN).

12.15. System Integrator's Obligations

- SI should perform the Services specified by the TCMPF (AAVIN) and make available the necessary equipment / facilities / services as may be necessary and other 'Scope of work' requirements as specified in the tender and changes thereof.
- The SI shall ensure that the System Integrator's Team is competent, professional and possesses the requisite qualifications and experience appropriate to the task they are required to perform under this Contract. The SI shall ensure that the Services are performed through the efforts of the System Integrator's Team, in accordance with the terms hereof and to the satisfaction of the TCMPF (AAVIN). Nothing in this Contract relieves the SI from its liabilities or obligations under this Contract to provide the Services in accordance with the TCMPF (AAVIN) directions and requirements and as stated in this Contract and the Bid to the extent accepted by the TCMPF (AAVIN) and the SI shall be liable for any non-performance, non-compliance, breach or other loss and damage resulting either directly or indirectly by or on account of its Team.
- Warranty - The equipment supplied would carry onsite comprehensive OEM warranty for the entire duration of the contract as mentioned in section 12.13. The supplied software shall carry warranty/support as per the agreement between the TCMPF (AAVIN) and the software OEMs.
- Third party claims - The selected System Integrator(s) shall indemnify TCMPF (AAVIN) against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.
- Delivery and documentation - Delivery of Goods shall be made by the selected System Integrator strictly in accordance with the specifications of the tender document or in case of deviations, the specifications approved and accepted by the TCMPF (AAVIN). The SI should also provide – a. detailed design document containing details pertaining to application, network and security; b. Database architecture that includes detailed about clustering, mirroring, backup strategies, data structure definitions, data dictionary as per standards laid down by govt. of TN/India; c. Data Architecture containing interface and integration architecture; d. Detailed system requirement specifications (SRS).
- Ownership of equipment - All the equipment provided by the selected agency(s) shall virtually have the right to use of the property by TCMPF (AAVIN) throughout the contract period though the ultimate transfer may come much later, after the expiry of the contract period. The selected agency will therefore not shift, move, and transfer the equipment without the prior consent of the TCMPF (AAVIN). Such a request by the System Integrator should be made with suitable justification and reasoning. However, the System Integrator will be allowed to carry out normal maintenance activities as scheduled. It should be noted that if equipment has to be replaced, the

replacement must have a manufacturing date later than the equipment being replaced and the configuration of the replacement should be same or higher. Information about all such replacements along with reasons for should be provided in writing to TCMPF (AAVIN).

- Any equipment or material purchased, procured or developed as a result of this contract shall belong to TCMPF.
- Ownership of all the data created during the period of contract shall be the property of the TCMPF (AAVIN), however, the responsibility of its maintenance, updation, correctness and backup would be that of System Integrator.
- No third party interest in any form (lien, mortgage, hypothecation etc.) without the prior approval and consent of the TCMPF (AAVIN), can be created on the assets, equipment etc. installed by the selected agency (s).
- The System Integrator is required to ensure that at least one Senior Staff (Project Leader / Project Manager) who is capable of decision making and required coordination on day-to-day operations of the project are seated full-time at TCMPF (AAVIN) Office in Chennai, for the rollout and O&M of the project.
- Interpretation of Clauses - In case of any ambiguity in the interpretation of any of the clauses in the RFP, the interpretation of the clauses by Authorized Representative of TCMPF (AAVIN) shall be final and binding on all parties.

12.16. System Integrator's Representative

The System Integrator's representative shall have all the powers requisite for the performance of services under this contract. The System Integrator's Representative shall liaise with the TCMPF (AAVIN) Representative for the proper coordination and timely completion of the works and on any other matters pertaining to the works. He will extend full co-operation to TCMPF (AAVIN) representative in the manner required by them for supervision/inspection/observation of the facilities, equipment/material, procedures, performance, reports and records pertaining to the works. He shall also have complete charge of the System Integrator's personnel engaged in the performance of the works and to ensure internal discipline, compliance of rules, regulations and safety practice. He shall also co-ordinate and co-operate with the other Service Providers/Vendors of the TCMPF (AAVIN) working at the Site/offsite for activities related to planning, execution of scope of work and providing services under this contract.

12.17. Reporting Progress

- SI shall monitor progress of all the activities specified in the contract and submit free of cost monthly progress report about various aspect of the work to the TCMPF (AAVIN). The TCMPF (AAVIN) on mutual agreement between both parties may change the periodicity of such reports. Extracts of the progress report to be termed, as "Executive Summary" shall be submitted in 3 copies, along with 3 copies of monthly progress report. The same is required to be submitted in soft copy as well. Formats for such reporting shall be discussed at the Kick-Off meeting.
- The Infrastructure facilities / services, and manpower to be provided by the SI under the Contract and the manner and speed of execution and maintenance of the work are to be conducted in a manner to the satisfaction of TCMPF (AAVIN) representative in accordance with the Contract. The rate of progress of the work, compliance to the requirements of the Data Centre and departmental offices/its facilities, or any part of them at any time fall behind the stipulated time for completion or is found to be too slow to ensure completion of the works or insufficient for

satisfactory operation of the TCMPF (AAVIN), TCMPF (AAVIN) representative may so notify the SI in writing.

- The SI shall reply to the written notice giving details of the measures he proposes to take to expedite the progress so as to complete the works by the prescribed time. The SI shall not be entitled to any additional payment for taking such steps. If at any time it should appear to the TCMPF (AAVIN) or TCMPF (AAVIN) representative that the actual progress of work does not conform to the approved programme the SI shall produce at the request of the TCMPF (AAVIN) representative a revised programme showing the modification to the approved programme necessary to ensure completion of the works within the time for completion or steps initiated to ensure compliance/improvement to the stipulated requirements

12.18. Knowledge of Site Conditions

- The System Integrator's undertaking of this Contract shall be deemed to mean that the SI possesses the knowledge of all the related requirements as stipulated in the Tender Document including but not limited to environmental, demographic and physical conditions and all criteria required to meet the design of the systems.
- The SI shall be deemed to have understood the requirements and have satisfied himself with the data contained in the Bidding Documents, the quantities and nature of the works and materials necessary for the completion of the works, etc., and in-general to have obtained himself all necessary information of all risks, contingencies and circumstances affecting his obligations and responsibilities therewith under the Contract and his ability to perform it. However, if during the process of site preparation and installation of the equipment at the Data Centre and department offices, as required by TCMPF (AAVIN), SI detects any obstructions affecting the work, the SI shall take all measures to overcome them.
- SI shall be deemed to have satisfied himself as to the correctness and sufficiency of the Contract Price for the works. The consideration provided in the Contract for the SI undertaking the works shall cover all the System Integrator's obligation and all matters and things necessary for proper execution and maintenance of the works in accordance with the Contract and for complying with any instructions which the TCMPF (AAVIN) Representative may issue in accordance with the connection therewith and of any proper and reasonable measures which the SI takes in the absence of specific instructions from the TCMPF (AAVIN) Representative.

12.19. System Integrator's Team

- The SI shall submit to the TCMPF (AAVIN) 7 days prior to the effective date of commencement of works / services or kick-off meeting whichever is earlier, an organization chart showing the proposed organization/manpower to be established by the SI for execution of the work/facilities including the identities and Curriculum-Vitae of the key personnel to be deployed. The SI shall promptly inform the TCMPF (AAVIN) in writing, of any revision or alteration of such organization charts.
- The team proposed by the SI as a part of the technical proposal should be deployed at TCMPF (AAVIN). Any change in the team profile should be brought in to the notice of TCMPF (AAVIN). SI should ensure that any replacement personnel, if unavoidable, is equivalent or better than the original personnel in terms of experience and qualification.

- The SI shall be responsible for the deployment, transportation, accommodation and other requirements of all its employees required for the execution of the work and for all costs/charges in connection thereof.
- The SI shall provide and deploy, on the Site for carrying out the work, only those manpower resources who are skilled and experienced in their respective trades and who are competent to execute or manage/supervise the work in a proper and timely manner. Any deviation from the team proposed in the Technical Bid shall be given to TCMPF (AAVIN) as and when required.
- The TCMPF (AAVIN) Representative may at any time object to and require the SI to remove forthwith from the site a supervisor or any other authorized representative or employee of the SI or any person(s) deployed by SI or his agent / sub-contractor, if, in the opinion of the TCMPF (AAVIN) Representative the person in question has misconduct himself or his deployment is otherwise considered undesirable by the TCMPF (AAVIN) Representative the SI shall forthwith remove and shall not again deploy the person in question of the work site without the written consent of the TCMPF (AAVIN) Representative.
- The TCMPF (AAVIN) Representative may at any time request the SI to remove from the work / Site the System Integrator's supervisor or any other authorized representative including any employee of the SI or his sub-SI or any person(s) deployed by SI or their agent / sub-contractor for professional incompetence or negligence or for being deployed for work for which he is not suited. The SI shall consider the TCMPF (AAVIN) Representative Request and may accede to or disregard it. The TCMPF (AAVIN) Representative, having made a request, as aforesaid in the case of any person, which the SI has disregarded, may in the case of the same person at any time but on a different occasion, and for a different instance of one of the reasons referred to above in this Clause object to and require the SI to remove that person from deployment on the work, which the SI shall then forthwith do and shall not again deploy any person so objected to on the work or on the sort of work in question (as the case may be) without the written consent of the TCMPF (AAVIN) Representative.
- The TCMPF (AAVIN) Representative shall state to the SI in writing his reasons for any request or requirement pursuant to this clause.
- The SI shall maintain backup personnel and shall promptly provide replacement of every person removed, pursuant to this section, with an equally competent substitute from the pool of backup personnel.
- In case of change in its team composition owing to attrition, the SI shall ensure a reasonable amount of time-overlap in activities to ensure proper knowledge transfer and handover/ takeover of documents and other relevant materials between the outgoing and the new member. The exiting team member should be replaced with an equally competent substitute from the pool of backup personnel.

12.20. Contract administration

Either party may appoint any individual / organization as their authorized representative through a written notice to the other party. Each Representative shall have the authority to:

- Exercise all of the powers and functions of his/her Party under this Contract other than the power to amend this Contract and ensure the proper administration and performance of the terms hereof; and
- Bind his or her Party in relation to any matter arising out of or in connection with this Contract.

- The SI along with the members of Sub-Implementation Agencies/third parties shall be bound by all undertakings and representations made by the authorized representative of the SI and any covenants stipulated hereunder, with respect to this Contract, for and on their behalf.
- For the purpose of execution or performance of the obligations under this Contract, the TCMPF (Aavin) representative would act as an interface with the nominated representative of the System Integrator. The SI shall comply with any instructions that are given by the TCMPF (Aavin) representative during the course of this Contract in relation to the performance of its obligations under the terms of this Contract and the Tender.
- A Committee comprising of representatives from the TCMPF (Aavin) and the SI shall meet on a regular basis as per schedule prescribed by TCMPF (Aavin) to discuss any issues / bottlenecks being encountered. The minutes of these meetings shall be prepared and circulated to the participants.

12.21. Right of Monitoring, Inspection and Periodic Audit

- The TCMPF (Aavin), reserves the right to inspect and monitor/assess the progress/performance/maintenance of the application and infrastructure at any time during the course of the Contract, after providing due notice to the System Integrator. The TCMPF (Aavin) may demand and upon such demand being made, the TCMPF (Aavin) shall be provided with any document, data, material or any other information which it may require, to enable it to assess the progress of the project.
- The TCMPF (Aavin) shall also have the right to conduct, either itself or through another party as it may deem fit, an audit to monitor the performance by the SI of its obligations/functions in accordance with the standards committed to or required by the TCMPF (Aavin) and the SI undertakes to cooperate with and provide to the TCMPF (Aavin) / any other party appointed by the TCMPF (Aavin) all documents and other details as may be required by them for this purpose. Any deviations or contravention identified as a result of such audit/assessment would need to be rectified by the SI failing which the TCMPF (Aavin) may, without prejudice to any other rights that it may have issue a notice of default.

12.22. TCMPF (AAVIN) Obligations

- The TCMPF (AAVIN) Representative shall interface with the System Integrator, to provide the required information, clarifications, and to resolve any issues as may arise during the execution of the Contract. TCMPF (AAVIN) shall provide adequate cooperation in providing details, assisting with coordinating and obtaining of approvals from various governmental agencies, in cases, where the intervention of the TCMPF (AAVIN) is proper and necessary.
- TCMPF (AAVIN) shall ensure that timely approval is provided to the System Integrator, where deemed necessary, which should include details and all specifications related to equipment/material required to be provided as part of the Scope of Work.

12.23. Information Security

- The SI shall not carry and/or transmit any material, information, layouts, diagrams, storage media or any other goods/material in physical or electronic form, which are proprietary to or owned by the TCMPF (Aavin) out of its premises without prior written permission from the TCMPF (Aavin).

- The SI shall adhere to the Information Security policy developed by the state.
- SI acknowledges that TCMPF (Aavin) business data and other TCMPF (Aavin) proprietary information or materials, whether developed by TCMPF (Aavin) or being used by TCMPF (Aavin) pursuant to a license agreement with a third party (the foregoing collectively referred to herein as "proprietary information") are confidential and proprietary to TCMPF (Aavin); and SI agrees to use reasonable care to safeguard the proprietary information and to prevent the unauthorized use or disclosure thereof, which care shall not be less than that used by SI to protect its own proprietary information. SI recognizes that the goodwill of TCMPF (Aavin) depends, among other things, upon SI keeping such proprietary information confidential and that unauthorized disclosure of the same by SI could damage TCMPF (Aavin) and that by reason of System Integrator's duties here under. SI may come into possession of such proprietary information, even though SI does not take any direct part in or furnish the services performed for the creation of said proprietary information and shall limit access thereto to employees with a need to such access to perform the services required by this agreement. SI shall use such information only for the purpose of performing the said services.
- SI shall, upon termination of this agreement for any reason, or upon demand by TCMPF (Aavin) whichever is earliest, return any and all information provided to SI by TCMPF (Aavin) including any copies or reproductions, both hard copy and electronic copy.

12.24. Ownership of Equipment

The TCMPF (Aavin) shall own the equipment / software and data centre infrastructure, supplied by the SI arising out of or in connection with this Contract. TCMPF (Aavin) shall reserve rights to use the software for any other applications or purpose other than mentioned in this RFP.

12.25. Insurance

- SI shall, at his own expense, arrange appropriate comprehensive insurance to cover all risks assumed by the SI under this CONTRACT in respect of its personnel deputed under this CONTRACT as well as SYSTEM INTEGRATOR's equipment, tools and any other belongings of the SI or their personnel during the entire period of their engagement in connection with this CONTRACT. TCMPF (Aavin) will have no liability on this account.
- SI shall take out insurance policies against all risks of loss or damage caused to TCMPF (Aavin) property / equipment for property / equipment owned or hired by TCMPF (Aavin) and the works and part of the works taken over by TCMPF (Aavin).
- Notwithstanding anything contained in any provision of this CONTRACT, save as specified above in this Clause TCMPF (Aavin) shall defend, indemnify and hold SI harmless from and against any losses, damages, cost or claims relating to TCMPF (Aavin) existing property except in case of gross negligence or wilful misconduct of the System Integrator, its sub-system integrators, their agents or employees, in which case the SI shall be liable to bear any loss or damage occurring to the Property of the TCMPF (Aavin) as a result of its gross negligence or wilful misconduct, provided however, that such liability shall be limited to 100% of the CONTRACT Price.
- "Gross Negligence" means: any act or failure to act (whether sole, joint or concurrent) by a person or entity which was intended to cause, or which was in reckless disregard of or wanton indifference to, avoidable and harmful consequences such person or entity knew, or should have known, would result from such act or failure to act. Notwithstanding the foregoing, Gross

negligence shall not include any action taken in good faith for the safeguard of life or property, "wilful misconduct" means: "intentional disregard of good and prudent standards of performance or proper conduct under the CONTRACT with knowledge that it is likely to result in any injury to any person or persons or loss or damage of property.

- Certificate of Insurance: Before commencing performance of the CONTRACT, SI shall upon request furnish TCMPF (Aavin) with certificates of insurance indicating (1) kinds and amounts of insurance as required herein (2) insurance TCMPF (Aavin) or companies carrying the aforesaid coverage (3) effective and expiry dates of policies (4) that TCMPF (Aavin) shall be given thirty (30) days written advance notice of any material change in the policy (5) waiver of subrogation endorsement has been attached to all policies and (6) the territorial limits of all policies. If any of the above policy expire or/ are cancelled during the term of this CONTRACT and SI fails for any reason to renew such policies, then TCMPF (Aavin) may replace same and charge the cost thereof to SYSTEM INTEGRATOR. Should the relapse in any insurance required to be carried out by SI hereunder for any reason; losses resulting there from shall be to the sole account of the SYSTEM INTEGRATOR. Such insurance shall be affected within Insurance Company incorporated and registered in India or jointly with a company of International repute and an Insurance Company incorporated and registered in India.

12.26. Indemnity

- The SI shall execute and furnish to the TCMPF (Aavin) a Deed of Indemnity in favour of the TCMPF (Aavin) in a form and manner acceptable to the TCMPF (Aavin) indemnifying the TCMPF (Aavin) from and against any costs, loss, damages, expense, claims, patents, trademarks, copyrights including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period out of:
- any negligence or wrongful act or omission by the SI or the System Integrator's Team or any sub-System Integrator/ third party in connection with or incidental to this Contract; or
- Any breach of any of the terms of the System Integrator's Bid as agreed, the Tender and this Contract by the System Integrator, the System Integrator's Team or any sub-System Integrator/ third party.
- The indemnity shall be to the extent of 100% in favour of the TCMPF (Aavin).

12.27. Confidentiality

- The SI shall not use Confidential Information (Biometric Records etc.), the name or the logo of the TCMPF (Aavin) except for the purposes of providing the Service as specified under this contract;
- The SI may only disclose Confidential Information in the following circumstances:
    - with the prior written consent of the TCMPF (Aavin);
    - to a member of the System Integrator's Team ("Authorized Person") if:
        - the Authorized Person needs the Confidential Information for the performance of obligations under this contract;
        - the Authorized Person is aware of the confidentiality of the Confidential Information and is obliged to use it only for the performance of obligations under this contract
- The SI shall do everything reasonably possible to preserve the confidentiality of the Confidential Information including execution of a confidentiality agreement with the members of the, sub

Implementation Agencies and other service provider's team members to the satisfaction of the TCMPF (Aavin).

- The SI shall sign a Non-Disclosure Agreement (NDA) with the TCMPF (Aavin). The System Integrator, its antecedents and the sub-contractor shall be bound by the NDA. The SI will be held responsible for any breach of the NDA by its antecedents, delegates or sub-Implementation Agencies
- The SI shall notify the TCMPF (Aavin) promptly if it is aware of any disclosure of the Confidential Information otherwise than as permitted by this Contract or with the authority of the TCMPF (Aavin).
- The SI shall be liable to fully recompense the TCMPF (Aavin) for any loss of revenue arising from breach of confidentiality. The TCMPF (Aavin) reserves the right to adopt legal proceedings, civil or criminal, against the SI in relation to a dispute arising out of breach of obligation by the SI under this clause.

12.28. Term and Extension of the Contract

- The term of this Contract shall be initially for a period of two years from the date of Go-Live issued by TCMPF (Aavin).
- After the expiry of contract period or after expiry of the extended term of contract as set out in Section 12.13 of this RFP, as the case may be, TCMPF (Aavin) may extend the contract term by 3 months twice subject to maximum of 6 months at the discretion of the TCMPF (Aavin), for which payment may be made at the same rate of quarterly payment as specified in payment milestones. The SI will have to compulsorily provide support for the extended term. After that if mutually agreed it can further be extended for 3 months twice. For this mutually agreed extended period, the amount will be paid on mutually agreed rate. The TCMPF (Aavin) shall reserve the sole right to grant any extension to the term above mentioned and shall notify in writing to the System Integrator, at least 3 months before the expiration of the Term hereof, whether it will grant the SI an extension of the Term. The decision to grant or refuse the extension shall be at the TCMPF (Aavin) discretion.
- Where the TCMPF (Aavin) is of the view that no further extension of the term be granted to the System Integrator, the TCMPF shall notify the SI of its decision at least 3 (three) months prior to the expiry of the Term. Upon receipt of such notice, the SI shall continue to perform all its obligations hereunder, until such reasonable time beyond the Term of the Contract within which, the TCMPF (Aavin) shall either appoint an alternative System Integrator/service provider or create its own infrastructure to operate such Services as are provided under this Contract.
- In case Aavin decides to renew the O&M for the SI, the same shall be at the rates per year which shall be the minimum of:
    - The rate for O&M per year quoted by the System Integrator in the Commercial Bid
    - Rate of maintenance as specified in the Payment Milestones.

12.29. Prices

- Prices quoted must be firm and shall not be subject to any upward revision on any account whatsoever throughout the period of contract.
- If at any time during the period of contract, the SI offers services similar in nature to any other customer, at prices lower than those chargeable under this contract, he shall notify the same to the TCMPF (Aavin) and extend such reduced prices to the TCMPF (Aavin) with immediate effect.

12.30. Alteration/Variation

- The SI agrees that the Data Centre and TCMPF offices requirements given in specifications of the Bidding Documents are broad requirements and are in no way exhaustive and guaranteed by the TCMPF (Aavin).
- It shall be the responsibility of the SI to meet all the requirements contained in the Bidding Documents and any upward revisions and / or additions of quantities / specifications / sizes given in Specifications and drawings etc. of the Bidding Documents required to be made during commissioning of Data Centre and department offices shall not constitute a change order and shall be carried out without a change order and shall be carried out without any time and cost effect to TCMPF (Aavin).
- Further upward revisions and or additions required to make System Integrator's selected space, facilities, equipment and installation procedures to meet Bidding Documents requirements expressed and to make entire facilities safe, operable and as per specified codes and standards shall not constitute a change order and shall be carried out without any time and cost effect to TCMPF (Aavin).
- Any upward revision and/or additions consequent to errors, omissions, ambiguities, discrepancies in the specification, etc. of the Bidding Documents which the SI had not brought out to the TCMPF (Aavin) notice in his tender shall not constitute a change order and such upward revisions and/or addition shall be carried out by SI without any time and cost effect to TCMPF (Aavin).

12.31. Change Order

- The change order will be initiated only in case
  i. The TCMPF (Aavin) directs in writing the SI to include any addition to the scope of work covered under this Contract or delete any part of the scope of the work under the Contract,
  ii. SI requests to delete any part of the work which will not adversely affect the operational capabilities of the facilities and if the deletions proposed are agreed to by the TCMPF (Aavin) and for which cost and time benefits shall be passed on to the TCMPF (Aavin)
  iii. The TCMPF (Aavin) directs in writing the SI to incorporate changes or additions to the various requirements already covered in the Contract.
- Any changes required by the TCMPF (Aavin) over and above the minimum requirements given in the specifications and drawings etc. included in the Bidding Documents before giving its approval to detailed design or Engineering for complying with design criteria and changes required to ensure systems compatibility and reliability for safe (As per codes, standards and recommended practices referred in the Bidding Documents) and trouble free operation shall not be construed to be change in the Scope of work under the Contract.
- Any change order as stated in Clause 12.31.i. comprising an alteration which involves change in the cost of the works (which sort of alteration is hereinafter called a "Variation") shall be the Subject of an amendment to the Contract by way of an increase or decrease in the Contract Price and adjustment of the implementation schedule if any.
- If there is a different of opinion between the SI and TCMPF (Aavin) Representative whether a particular work or part of the work constitutes a change order or not, the matter shall be handled in accordance with the procedures set forth in Clause 12.32.

- Within 14 working days of receiving the comments from the TCMPF (Aavin) or the drawings, specification, purchase requisitions and other documents submitted by the SI for approval, the SI shall respond in writing, which item(s) of the Comments is/are potential changes(s) in the "Scope of work" at Section 6 of the Volume I of the RFP covered in the Contract and shall advise a date by which change order (if applicable) will be submitted to the TCMPF (Aavin).

12.32. Procedures for Change Order

a. During detailed Engineering and subsequently, if the SI observes that any new requirement which other than that required for meeting the design criteria is not specific or intended by the Contract has been stipulated by the TCMPF (Aavin) while approving the specifications, calculations, purchase requisitions, other documents etc. he would verbally discuss the matter with TCMPF (Aavin) Representative. Any addition of modules/sub-modules in the TCMPF (Aavin) software as required by the department during implementation or O&M phase shall not constitute a change order.
b. In case such requirement arises from the side of the System Integrator, he would also verbally discuss the matter with TCMPF (Aavin) Representative giving reasons thereof.
c. In either of the two cases as explained in Clause 12.32.a and 12.32.b above, the representatives of both the parties will discuss on the new requirement for better understanding and to mutually decide whether such requirement constitutes a change order or not.
d. If it is mutually agreed that such Requirement constitutes a "Change Order" then a joint memorandum will be prepared and signed by the SI and TCMPF (Aavin) to confirm a "Change Order" and basic ideas of necessary agreed arrangement.
e. Upon completion of the joint memorandum referred to above under Clause 12.32.d, the results along with all relevant details including the estimated time and cost effect thereof with supporting documents would be submitted to the TCMPF (Aavin) to enable the TCMPF (Aavin) to give a final decision whether SI should proceed with the change order or not in the best interest of the works. The estimated cost and time impact indicated by SI shall be considered as a ceiling limit and shall be provisionally considered for taking a decision to implement change order. The time impact applicable to the Contract shall be mutually agreed, subsequently, on the basis of the detailed calculations supported with all relevant back up documents. In case SI fails to submit all necessary support and back up documents, the decision of the TCMPF (Aavin) regarding time and cost shall be final and binding on the System Integrator.
f. If TCMPF (Aavin) accepts the implementation of the change order under Clause 12.32.e above in writing, which would be considered as change order, then SI shall commence to proceed with the relevant work stipulated in the change order pending final agreement between the parties with regard to adjustment of the Contract Price and the Construction Schedule.
g. In case, mutual agreement whether new requirement constitutes the change order or not, is not reached, then SI in the interest of the works, shall take up the implementation of the work, if advised in writing to do so by TCMPF (Aavin) Representative pending settlement between the two parties to the effect whether such requirement constitutes a change order or not as per the terms and conditions of Contract documents. The time and cost effects in such a case shall be mutually verified and recorded. Should it establish that the said work constitutes a change order; the same shall be compensated as per the clause "h" given below.
h. The SI shall submit necessary back up documents for the change order showing the break-up of the various elements constituting the change order for the TCMPF (Aavin) review. If no agreement is reached between the TCMPF (Aavin) and SI within 60 days after TCMPF (Aavin)

instruction in writing to carry out the change concerning the increase or decrease in the Contract price and all other matters described above, either party may refer the dispute to arbitration.

12.33. Change of Size / Quantities

The TCMPF (Aavin) will have the option to increase or decrease the size of the dedicated and exclusive space at its offices as well as the related quantities of equipment/material to be provisioned by the SI as mentioned in the Contract, at any time before work is initiated at the site, provided that such increase or decrease shall not exceed twenty five per cent (25%) as per tender rules of Tamil Nadu. The changes would be effected by using the unit price quoted by the System Integrator. In case the change required by the TCMPF (Aavin) exceeds 25% of the total Contract Price, the said change would be subject to the SI providing his written consent to the TCMPF (Aavin) request.

12.34. Conditions for extra work/change order

- The provisions of the Contract shall apply to extra work performed as if the Extra work / Change order has been included in the original Scope of work. However, the Contract Price shall increase / decrease and the Time Schedule shall be adjusted on account of the Extra work / Change orders as may be mutually agreed in terms of provisions set forth in Clause 12.31 through 12.33 above. The System Integrator's obligations with respect to such work remain in accordance with the Contract.
- The rates provided by the SI as part of its commercial quote will be considered as benchmark rates for placing change orders, if any.

12.35. Suspension of Work

- The SI shall, if ordered in writing by the TCMPF (Aavin) Representative, temporarily suspend the works or any part thereof for such a period and such a time as ordered. The SI shall not be entitled to claim compensation for any loss or damage sustained by him by reason of temporary suspension of the Works as aforesaid. An extension of time for completion, corresponding with the delay caused by any such suspension of the works as aforesaid shall be granted to the System Integrator, if request for same is made and that the suspension was not consequent to any default or failure on the part of the System Integrator. In case the suspension of works, is not consequent to any default or failure on the part of the System Integrator, and lasts for a period of more than 3 months, the SI shall have the option to request the TCMPF (Aavin) to terminate the Contract with mutual consent.
- In the event that the TCMPF (Aavin) suspends the progress of work for any reason not attributable to the SI for a period in excess of 90 days in aggregate, rendering the SI to extend his performance guarantee then TCMPF (Aavin) shall bear only the cost of extension of such bank guarantee for such extended period restricted to the normal bank rates as applicable in the international banking procedures subject to the SI producing the requisite evidence from the bank concerned.

12.36. Tenure of Contract

Unless terminated earlier, the Contract shall terminate on the completion of term as specified in the Contract and only after the obligations mentioned in Clause 12.43 are fulfilled to the satisfaction of the TCMPF (Aavin).

12.37. Payment Schedule

Payments for the **Phase-I & II** will be released after the stage-wise completion certificate & final commissioning certificate:

S. No.	Project Milestones	% Value of Contract	Remarks
D1	User Hardware Procurement	2.5	Payable after successful installation and commissioning of all User Hardware and verification thereof by the client.
D2	Submission of SRS (Design)	5	Payable on Sign-off of the SRS
D4	Acceptance Testing (PAT, UAT)	5	Payable on performance of Acceptance Testing and removal of all defects / issues tracked therein and final sign off given by the Client
D5	Server Hosting	5	Payable on installation of all servers in DC / DR as per BOM (Commissioning Report) and verification of the same by the Client.
D6	Pilot Implementation	10	Payable 2 weeks after Pilot locations start using the application
D7	Security Auditing	5	Payable after receipt of Security Audit Certificate relating to entire application.
D8	Training	5	Payable after completion of requisite training as per RFP and receipt of training materials (hard copy / soft copy)
D9	Rollout	12.5	Payable 3 weeks after all locations start using all the modules developed in the application.
D10	O&M	40	8 quarterly payments at 5% each quarter
D11	Exit Management (Knowledge Transfer)	10	Payable after handover of all assets and conduct of technical training for Aavin Staff on Systems Management.
	Total	**100**	

In case the rates quoted by the SI are less than the percentage payment determined, the lesser value will be paid to the SI. However, the remaining value shall be adjusted proportionately in all subsequent payments.

Phase II conditions

- The SI shall obtain assessment certification for the TCMPF (Aavin) Application within the first Quarter of Operations; otherwise it would invite invocation of the Liquidity Damages mentioned in section 12.45 of this tender. In case of non-fulfilment of this assessment in the subsequent quarter TCMPF (Aavin) may terminate the contract.

- After the end of every quarter, The Quarterly SLA/performance report in a prescribed format should be submitted within 7 working days in the succeeding quarter.
- Quarterly payment will be released after deducting the LD or penalties as per SLA of the previous quarter if any.

Note:

- All Payments shall be made in Indian Rupees Only
- TCMPF (Aavin) reserves the right to release the part payment for completed work against the milestone payment.

12.38. Penalty for Non-Fulfilment of Service Level Agreement

In case of non-conformity to SLA terms penalty will be deducted from the quarterly payment as mentioned in the SLA

12.39. Events of Default by the System Integrator

- The failure on the part of the SI to perform any of its obligations or comply with any of the terms of this Contract shall constitute an Event of Default on the part of the System Integrator. The events of default as mentioned above may include inter-alia the following:
- the SI has failed to perform any instructions or directives issued by the TCMPF (Aavin) which it deems proper and necessary to execute the scope of work under the Contract, or
- The SI has failed to adhere to any of the key performance indicators as laid down in the Key Performance Measures / Contract, or if the SI has fallen short of matching such standards/targets as the TCMPF (Aavin) may have designated with respect to any task necessary for the execution of the scope of work under this Contract. The above mentioned failure on the part of the SI may be in terms of failure to adhere to timelines, specifications, requirements or any other criteria as defined by the TCMPF (Aavin);
- the SI has failed to remedy a failure to perform its obligations in accordance with the specifications issued by the despite being served with a default notice which laid down the specific deviance on the part of the SI to comply with any stipulations or standards as laid down by the TCMPF (Aavin); or
- the System Integrator/System Integrator's Team has failed to conform with any of the Service/Facility Specifications/standards as set out in the scope of work of this Tender document or has failed to adhere to any amended direction, modification or clarification as issued by the TCMPF (Aavin) during the term of this Contract and which the TCMPF (Aavin) deems proper and necessary for the execution of the scope of work under this Contract
- the SI has failed to demonstrate or sustain any representation or warranty made by it in this Contract, with respect to any of the terms of its Bid, the Tender and this Contract
- There is a proceeding for bankruptcy, insolvency, winding up or there is an appointment of receiver, liquidator, assignee, or similar official against or in relation to the System Integrator.
- The System Integrator/System Integrator's Team has failed to comply with or is in breach or contravention of any applicable laws.
- Where there has been an occurrence of such defaults inter alia as stated above, the TCMPF (Aavin) shall issue a notice of default to the System Integrator, setting out specific defaults / deviances / omissions and providing a notice of Sixty (60) days to enable such defaulting party to remedy the default committed.

- Where despite the issuance of a default notice to the SI by the TCMPF (Aavin) the SI fails to remedy the default to the satisfaction of the System Integrator, the TCMPF (Aavin) may, where it deems fit, issue to the defaulting party another default notice or proceed to adopt such remedies as may be available to the TCMPF (Aavin).
- If the system integrator is given a penalty of more than 25% of any milestone payment, it constitutes a default and the TCMPF (Aavin) has the right to consider the termination at any time after the default.

12.40. Consequences in Event of Default

- Where an Event of Default subsists or remains uncured the TCMPF (Aavin) may/shall be entitled to:
- Impose any such obligations and conditions and issue any clarifications as may be necessary to inter alia ensure smooth continuation of Services and the project which the SI shall be obliged to comply with which may include unilateral re-determination of the consideration payable to the SI hereunder. The SI shall in addition take all available steps to minimize loss resulting from such event of default.
- The TCMPF (Aavin) may, by a written notice of suspension to the System Integrator, suspend all payments to the SI under the Contract, provided that such notice of suspension:
- shall specify the nature of the failure; and
- shall request the SI to remedy such failure within a specified period from the date of receipt of such notice of suspension by the System Integrator
- Where the TCMPF (Aavin) deems necessary, it shall have the right to require replacement of any of the System Integrator's agents / sub-contractors / vendors with another suitable member. The SI shall in such case terminate forthwith all their agreements/contracts other arrangements with such member and find of the suitable replacement for such outgoing member with another member to the satisfaction of the TCMPF (Aavin) who shall execute such Contracts with the TCMPF (Aavin) as the TCMPF (Aavin) may require. Failure on the part of the SI to find a suitable replacement and/or terminate all agreements/contracts with such member, shall amount to a breach of the terms hereof and the TCMPF (Aavin) in addition to all other rights, have the right to claim damages and recover from the SI all losses/ or other damages that may have resulted from such failure.

12.41. Terminate the Contract

In case of termination of the contract, TCMPF (Aavin) retains the right to:

- Retain such amounts from the payment due and payable by the TCMPF (Aavin) to the SI as may be required to offset any losses caused to the TCMPF (Aavin) as a result of such event of default and the SI shall compensate the TCMPF (Aavin) for any such loss, damages or other costs, incurred by the TCMPF (Aavin) in this regard. Nothing herein shall effect the continued obligation of the agents / sub-contractor / other members of its Team to perform all their obligations and responsibilities under this Contract in an identical manner as were being performed before the occurrence of the default.
- Invoke the Security Deposit and other Guarantees furnished hereunder, enforce the Deed of Indemnity, recover such other costs/losses and other amounts from the SI may have resulted from

such default and pursue such other rights and/or remedies that may be available to the TCMPF (Aavin) under law.

12.42. Termination

The TCMPF (Aavin) may, terminate this Contract in whole or in part by giving the SI prior and written notice indicating its intention to terminate the Contract under the following circumstances:

- Where the TCMPF (Aavin) is of the opinion that there has been such Event of Default on the part of the SI which would make it proper and necessary to terminate this Contract and may include failure on the part of the SI to respect any of its commitments with regard to any part of its obligations under its Bid, the Tender or under this Contract.
- Where it comes to the TCMPF (Aavin)'s attention that the SI (or the System Integrator's Team) is in a position of actual conflict of interest with the interests of the TCMPF (Aavin) in relation to any of terms of the System Integrator's Bid, the Tender or this Contract
- Where the System Integrator's ability to survive as an independent corporate entity is threatened or is lost owing to any reason whatsoever, including inter-alia the filing of any bankruptcy proceedings against the System Integrator, any failure by the SI to pay any of its dues to its creditors, the institution of any winding up proceedings against the SI or the happening of any such events that are adverse to the commercial viability of the System Integrator. In the event of the happening of any events of the above nature, the TCMPF (Aavin) shall reserve the right to take any steps as are necessary, to ensure the effective transition of the project to a successor System Integrator/service provider, and to ensure business continuity
- **Termination for Insolvency**: The TCMPF (Aavin) may at any time terminate the Contract by giving written notice to the System Integrator, without compensation to the System Integrator, if the SI becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the TCMPF (Aavin).
- **Termination for Convenience**: The TCMPF (Aavin) may, by prior written notice sent to the SI at least 6 months in advance, terminate the Contract, in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the TCMPF (Aavin) convenience, the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective.
- The SI may, subject to approval by the TCMPF (Aavin) terminate this Contract before the expiry of the term by giving the TCMPF (Aavin) a prior and written notice at least 12 months in advance indicating its intention to terminate the Contract by paying losses to the Aavin as estimated by the Aavin.

12.43. Consequences of Termination

- In the event of termination of this contract due to any cause whatsoever except 12.42 (Termination for Convenience), the SI shall be blacklisted and the empanelment will stand cancelled effective from the date of termination of this contract.
- In the event of termination of this Contract due to any cause whatsoever, [whether consequent to the stipulated Term of the Contract or otherwise] the TCMPF (Aavin) shall be entitled to impose any such obligations and conditions and issue any clarifications as may be necessary to ensure an efficient transition and effective business continuity of the project which the SI shall be obliged to

comply with and take all available steps to minimize loss resulting from that termination/breach, and further allow and provide all such assistance to the TCMPF (Aavin) and/or the successor System Integrator/service provider, as may be required, to take-over the obligations of the erstwhile SI in relation to the execution/continued execution of the scope of this Contract.

- Where the termination of the Contract is prior to its stipulated term on account of a Default on the part of the SI or due to the fact that the survival of the SI as an independent corporate entity is threatened/has ceased, or for any other reason, whatsoever, the TCMPF (Aavin) through unilateral re-determination of the consideration payable to the SI shall pay the SI for that part of the Services which have been authorized by the TCMPF (Aavin) and satisfactorily performed by the SI up to the date of termination. Without prejudice any other rights, the TCMPF (Aavin) may retain such amounts from the payment due and payable by the TCMPF (Aavin) to the SI as may be required to offset any losses caused to the TCMPF (Aavin) as a result of any act/omissions of the System Integrator. In case of any loss or damage due to default on the part of the SI in performing any of its obligations with regard to executing the scope of work under this Contract, the SI shall compensate the TCMPF (Aavin) for any such loss, damages or other costs, incurred by the TCMPF (Aavin). Additionally, the sub SI / other members of its team shall perform all its obligations and responsibilities under this Contract in an identical manner as were being performed before the collapse of the SI as described above in order to execute an effective transition and to maintain business continuity. All third parties shall continue to perform all/any functions as stipulated by the TCMPF (Aavin) and as may be proper and necessary to execute the scope of work under the Contract in terms of the System Integrator's Bid, the Tender and this Contract.
- Nothing herein shall restrict the right of the TCMPF (Aavin) to invoke the Bank Guarantee and other Guarantees furnished hereunder, enforce the Deed of Indemnity and pursue such other rights and/or remedies that may be available to the TCMPF (Aavin) under law.
- The termination hereof shall not affect any accrued right or liability of either Party nor affect the operation of the provisions of this Contract that are expressly or by implication intended to come into or continue in force on or after such termination.

12.44. Penalty

The SI should sign the contract with in the timelines as specified in the Section 4.27 of this RFP. Any Delay in signing the contract would attract a penalty of INR 50,000 per week.

12.45. Liquidated Damages for Non-Fulfilment of Commissioning Schedule

- A penalty as per service level agreement of late completion beyond the stipulated commissioning schedule will be levied.
- In the case it leads to termination, the TCMPF (Aavin) shall give 30 days' notice to the SI of its intention to terminate the Contract and shall so terminate the Contract unless during the 30 days' notice period, the SI initiates remedial action acceptable to the TCMPF (Aavin).
- The TCMPF (Aavin) may without prejudice to its right to affect recovery by any other method, deduct the amount of liquidated damages from any money belonging to the SI in its hands (which includes the TCMPF (Aavin) right to claim such amount against System Integrator's Bank Guarantee) or which may become due to the System Integrator. Any such recovery or liquidated damages shall not in any way relieve the SI from any of its obligations to complete the Works or from any other obligations and liabilities under the Contract.

12.46. Compliance with Statutory Requirements

The SI shall have to comply with the Contract Labour Act (Regulation & Abolition Act), Apprentices Act 1961, Payment of Wages Act, Minimum Wages Act, Employee State insurance Act, Employee Provident Fund and Miscellaneous provision Act, Fatal Accident Act, Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Workers) Act 1982 and other applicable Labour Laws and Regulations in force from time to time.

12.47. Special Terms

- TCMPF (AAVIN) reserves the right to reduce or increase the quantity requirement to an extent of 25% of tendered value at the time of releasing the work order or by issue of an amendment subsequently.
- Any additional active devices that will be provided by TCMPF (Aavin), during the contract period, which may be under warranty/AMC shall be deployed and monitored by the Successful Bidder as per the SLA and terms and conditions of the tender.
- The SI is allowed to sub-contract some of the activities mentioned in the contract scope only after approval from the department. The sub-contracting should be limited to only one level. In case of any deviations, penalties may be imposed.
- During the contract period, any additional internet bandwidth as required by TCMPF (Aavin) is to be provided by the SI at the rates finalised in the tender
- During the contract period, if any tariff reduction is announced by TRAI, the same has to be extended by the SI to the internet bandwidth and services.
- After the expiry of contract period, it may be extended to maximum of two quarter at same quarterly cost in the 20th Quarter, at the discretion of the TCMPF (AAVIN). In case of any further extensions, the same may be done at a mutually agreed rate.

12.48. Dispute Resolution

- The TCMPF (AAVIN) and the SI shall make every effort to resolve amicably by direct informal negotiations, any disagreement or disputes, arising between them under or in connection with the Contract.
- If, after Thirty (30) days from the commencement of such direct informal negotiations, the TCMPF (AAVIN) and the SI have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanism specified in Clauses.
- In the case of a dispute or difference arising between the TCMPF (AAVIN) and the SI relating to any matter arising out of or connected with this Contract, such dispute or difference shall be resolved in accordance under Section 90 of the Tamil Nadu Co-operatives Act, 1983 and rules thereunder.
- The party raising the dispute shall bear the costs related to filing and proceedings of the Arbitration.
- The TCMPF (AAVIN) may terminate this contract, by giving a written notice of termination of minimum 30 days, to the System Integrator, if the SI fails to comply with any decision reached consequent to this process.

- **Continuance of the Contract**: Notwithstanding the fact that settlement of dispute(s) (if any) under any proceedings, the parties hereto shall continue to be governed by and perform the work in accordance with the provisions under the Scope of Work to ensure continuity of operations.

12.49. Limitation of the System Integrator's Liability towards the TCMPF (AAVIN)

Except in case of gross negligence or wilful misconduct on the part of the SI or on the part of any person or company acting on behalf of the SI in carrying out the Services, the System Integrator, with respect to damage caused by the SI to TCMPF (AAVIN) property, shall not be liable:

- for any indirect or consequential loss or damage; and
- For any direct loss or damage that exceeds (A) the total payments payable under his contract to the SI hereunder, or (B) the proceeds the SI may be entitled to receive from any insurance maintained by the SI to cover such a liability, whichever of (A) or (B) is higher.
- This limitation of liability shall not affect the SI liability, if any, for damage to Third Parties caused by the SI or any person or firm / company acting on behalf of the SI in carrying out the Services.

12.50. Conflict of interest

The SI shall disclose to the TCMPF (AAVIN) in writing, all actual and potential conflicts of interest that exist, arise or may arise (either for the SI or the System Integrator's Team) in the course of performing the Services as soon as practical after it becomes aware of that conflict.

12.51. Severance

In the event any provision of this Contract is held to be invalid or unenforceable under the applicable law, the remaining provisions of this Contract shall remain in full force and effect.

12.52. Governing Language

The Agreement shall be written in English language. All correspondence and other documents pertaining to the Contract that are exchanged by parties shall be written in English language only.

12.53. "No Claim" Certificate

The SI shall not be entitled to make any claim, whatsoever against the TCMPF (AAVIN) under or by virtue of or arising out of, this contract, nor shall the TCMPF (AAVIN) entertain or consider any such claim, if made by the SI after he shall have signed a "No claim" certificate in favour of the TCMPF (AAVIN) in such forms as shall be required by the TCMPF (AAVIN) after the works are finally accepted.

12.54. Publicity

The SI shall not make or permit to be made a public announcement or media release about any aspect of this Contract unless the TCMPF (AAVIN) first gives the SI its written consent.

12.55. Force Majeure

- Force Majeure shall not include any events caused due to acts/omissions of such Party or result from a breach/contravention of any of the terms of the Contract, Bid and/or the Tender. It shall also not include any default on the part of a Party due to its negligence or failure to implement the stipulated/proposed precautions, as were required to be taken under the Contract.
- The failure or occurrence of a delay in performance of any of the obligations of either party shall constitute a Force Majeure event only where such failure or delay could not have reasonably been foreseen, or where despite the presence of adequate and stipulated safeguards the failure to perform obligations has occurred. In such an event, the affected party shall inform the other party in writing within five days of the occurrence of such event. The TCMPF (Aavin) will make the payments due for Services rendered till the occurrence of Force Majeure. However, any failure or lapse on the part of the SI in performing any obligation as is necessary and proper, to negate the damage due to projected force majeure events or to mitigate the damage that may be caused due to the abovementioned events or the failure to provide adequate disaster management/recovery or any failure in setting up a contingency mechanism would not constitute force majeure, as set out above.
- In case of a Force Majeure, all Parties will endeavour to agree on an alternate mode of performance in order to ensure the continuity of service and implementation of the obligations of a party under the Contract and to minimize any adverse consequences of Force Majeure.

12.56. Exit Management

For the completion of the contract period or extension thereof, the current SI shall follow the Exit Management Plan given below.

a. Selection of the SI for the period beyond the current contract (hereinafter referred to as 'New SI'') by TCMPF (AAVIN). The current SI can also bid for the same.
b. Submission of reports on the history of physical infrastructure / IT hardware / software by the Current SI to TCMPF (AAVIN).
c. Specification of configuration changes (based on the approval of TCMPF (AAVIN)) with necessary document proof by the current SI.
d. Submission of documentation on the current configuration to IDMS application, hardware, etc.
e. Verification and acceptance of documentation with respect to the physical inventory by TCMPF (AAVIN).
f. Deployment of resources at the TCMPF (AAVIN) and TNSDC by the New SI to meet the SLA requirements.
g. Current SI has to co-ordinate with the New SI for smooth rollout.
h. Parallel run by the New SI and Current SI for a period of 1 month to 3 months. The Current SI has to provide necessary training to the New SI for smooth takeover of operations.
i. The Current SI shall transfer in good and working condition, all equipment (without any liability) necessary for the proper and normal operation of the TNSDC to TCMPF (Aavin).
j. Any confidential Information relating to the current services rendered and performance data relating to the performance of the services; Documentation relating to TCMPF (AAVIN), Project's Intellectual Property Rights; any other project data and confidential information related to TCMPF (AAVIN) shall be transferred to TCMPF (AAVIN). A due diligence may be carried out by TCMPF (AAVIN) or New SI on the transition of all the information (including but not limited to documents, records and agreements) relating to the Office to the TCMPF (AAVIN).

k. In case of any contract extension beyond the contract period, the same shall be made effect as per the clause mentioned in the "Special terms"

12.57. Exit Management Purpose

This Schedule sets out the provisions, which will apply on expiry or termination of the SLA, the Project Implementation, Operation and Management SLA. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

12.58. Transfer of Assets

SI shall be entitled to use the Assets for the duration of the exit management period, which shall be the four month period from the date of expiry of contract, or termination of the SLA.

12.59. Cooperation and Provision of Information

During the exit management period SI will allow TCMPF (AAVIN) access to information reasonably required to define the then current mode of operation associated with the provision of the services to enable the client to assess the existing services being delivered.

12.60. Confidential Information, Security and Data

The SI will promptly on the commencement of the exit management period, supply to the TCMPF (AAVIN) or its nominated agencies the following:

- Information relating to the current services rendered and performance data relating to the performance of the services; Documentation relating to Project's Intellectual Property Rights; any other data and confidential information related to TCMPF (AAVIN);
- Project data as is reasonably required for purposes of the Project or for transitioning of the services to its Replacing SI in a readily available format.
- All other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable the TCMPF (AAVIN) and its nominated agencies, or its Replacing SI to carry out due diligence in order to transition the provision of the Services to TCMPF (AAVIN) or its nominated agencies, or its Replacing SI (as the case may be).

12.61. Employees

- Promptly on reasonable request at any time during the exit management period or earlier, the SI shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to TCMPF (AAVIN) a list of all employees (with job titles and communication address and mobile numbers, including all personal details available) of the SI, dedicated to providing the services at the commencement of the exit management period;
- To the extent that any Transfer Regulation does not apply to any employee of the SI, TCMPF (AAVIN) or Replacing SI may make an offer of employment or contract for services to such employee of the SI and the SI shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the TCMPF (AAVIN) or any Replacing SI.

12.62. Rights of Access to Information

At any time during the exit management period, the SI will be obliged to provide an access of information to TCMPF (AAVIN) and / or any Replacing SI in order to make an inventory of the Assets (including hardware / Software / Active / passive), layouts, diagrams, schematics, documentations, manuals, catalog, archive data, IP addressing, Live data, policy documents or any other material related to TCMPF (AAVIN) Project.

12.63. Exit Management Plan

- SI shall provide TCMPF (AAVIN) with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the SLA as a whole and in relation to the Project Implementation, the Operation and Management SLA and Scope of work definition.
    - A detailed program of the transfer process that could be used in conjunction with a Replacement Successful Bidder including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;
    - Plans for the communication with such of the SI, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on DC Project's operations as a result of undertaking the transfer;
    - Plans for provision of contingent support to TCMPF (AAVIN) Project and Replacement SI for a reasonable period (minimum one month) after transfer.
- SI shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.
- Each Exit Management Plan shall be presented by the SI to and approved by TCMPF (Aavin) or its nominated agencies.
- The terms of payment as stated in the Terms of Payment Schedule include the costs of the SI complying with its obligations under this Schedule.
- In the event of termination or expiry of SLA, Project Implementation, Operation and Management SLA or Scope of Work each Party shall comply with the Exit Management Plan.
- During the exit management period, the SI shall use its best efforts to deliver the services.
- Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule.
- This Exit Management plan shall be furnished in writing to TCMPF (Aavin) or its nominated agencies within 15 days from the receipt of notice of termination or one month prior to the expiry this Agreement.

12.64. General

a. Relationship between the Parties

Nothing in this Contract constitutes any fiduciary relationship between the TCMPF (Aavin) and System Integrator/System Integrator's Team or any relationship of employer employee, principal and agent, or partnership, between the TCMPF (Aavin) and System Integrator.
No Party has any authority to bind the other Party in any manner whatsoever except as agreed under the terms of this Contract.

The TCMPF (Aavin) has no obligations to the System Integrator's Team except as agreed under the terms of this Contract.

b. No Assignment

The SI shall not transfer any interest, right, benefit or obligation under this Contract without the prior written consent of the TCMPF (Aavin).

c. Survival

The provisions of the clauses of this Contract in relation to documents, data, processes, property, Intellectual Property Rights, indemnity, publicity and confidentiality and ownership survive the expiry or termination of this Contract and in relation to confidentiality, the obligations continue to apply unless the TCMPF (Aavin) notifies the SI of its release from those obligations.

d. Entire Contract

The terms and conditions laid down in the Tender and all annexure thereto as also the Bid and any attachments/annexes thereto shall be read in consonance with and form an integral part of this Contract. This Contract supersedes any prior Contract, understanding or representation of the Parties on the subject matter.

e. Governing Law

This Contract shall be governed in accordance with the laws of India.

f. Jurisdiction of Courts

The Competent court in Chennai have exclusive jurisdiction to determine any proceeding in relation to this Contract.

g. Compliance with Laws

The SI shall comply with the laws in force in India in the course of performing this Contract.

h. Notices

A "notice" means:
a notice; or
a consent, approval or other communication required to be in writing under this Contract.
all notices, requests or consents provided for or permitted to be given under this Contract shall be in writing and shall be deemed effectively given when personally delivered or mailed by pre-paid certified / registered mail, return receipt requested, addressed as follows and shall be deemed received two days after mailing or on the date of delivery if personally delivered to TCMPF (Aavin), at:

Tamil Nadu Co-operative milk producers' Federation Ltd.,
Aavin Illam, Madhavaram Milk Colony,
Chennai 600051- Tamil Nadu

Phone: 044 - 23464500-03
Fax: 044 - 044 23464505

To SI at:
<Address>
<Phone:>
<Fax:>
Any Party may change the address to which notices are to be directed to it by notice to the other parties in the manner specified above. A notice served on a Representative is taken to be notice to that Representative's Party.

i. Waiver

Any waiver of any provision of this Contract is ineffective unless it is in writing and signed by the Party waiving its rights.
A waiver by either Party in respect of a breach of a provision of this Contract by the other Party is not a waiver in respect of any other breach of that or any other provision.
The failure of either Party to enforce at any time any of the provisions of this Contract shall not be interpreted as a waiver of such provision.

j. Modification

Any modification of this Contract shall be in writing and signed by an authorized representative of each Party.

k. Application

These General Conditions shall apply to the extent that provisions in other parts of the Contract do not supersede them.

l. IT Act 2000

Besides the terms and conditions stated in this document, the contract shall also be governed by the overall acts and guidelines as mentioned in IT Act 2000.

Tamil Nadu Cooperative Milk Producers' Federation Ltd. (TCMPF), Aavin Illam, Madhavaram Milk Colony, Chennai -51, Tamil Nadu

Tender Reference No. 3637/IDMS/2015

Request for Proposal (RFP)
For
Selection of System Integrator (SI) to Implement Integrated Dairy Management System (IDMS)

VOLUME II – Technical Bid

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13. TECHNICAL BID

13.1. Declaration

We have gone through the contents of the RFP document and will abide by the same as laid down in three volumes (Tender containing Volume I, Volume II and Volume III).

We hereby confirm that our firm has not been blacklisted by any of the Government /Quasi Government agencies in India.

We further confirm that our firm has no legal case pending in any of the courts/statutory forums for winding up the company.

We also declare that if selected, we have no conflicting interest (financial or otherwise) in executing this assignment. We also confirm specifically that none of the members of our firm was in any way involved in preparing any documents related to this project.

We hereby declare that the particulars furnished by us in this offer are true to the best of my / our knowledge and we understand and accept that, if at any stage the information furnished is found to be incorrect or false, we are liable for disqualification from this tender and also liable for any penal action that may arise due to the above.

Description	To be filled by Bidder (Yes / No)
We confirm the above declaration	

Place:

Date:

Authorized Signatory's Signature:
Authorized Signatory's Name and Designation:
Bidder's Company Seal:

13.2. Covering Letter for Pre-Qualification Bid

<This letter should be printed in Bidder's letterhead>

To,
The Managing Director,
Tamil Nadu Cooperative Milk Producers' Federation Ltd. (Aavin),
Aavin Illam, Madhavaram Milk Colony,
Chennai - 600 051, Tamil Nadu

Subject: Submission of Bid for IDMS project – TCMPF (Aavin)

Sir,

In response to the tender number 3637/IDMS/2015 dated 02-Apr-2015 issued by Managing Director TCMPF, we offer our Prequalification bid to participate in the bidding process for Selection of System integrator (SI) to implement IDMS application Integrated Dairy Management System (IDMS) for the above-referred Project.

Having gone through the RFP, Model Master Agreement, including Addenda/amendments to the same, for the execution of the contract, we the undersigned offer to design, develop, test, install, operate, maintain and manage Integrated Dairy Management System (IDMS), the whole of the said works for the term of the Service Agreement in accordance with the service Agreement and in conformity with the documents comprising the RFP.

In the capacity of the Applicant for the Project, we declare that we have requisite technical competence and experience and are interested in the Project, should the TCMPF (aavin) select us for this purpose.

We enclose Power of Attorney for the person who is signing the bid.

If selected, we understand that it would be on the basis of the organizational, technical, financial capabilities and experience of the firm taken together as specified in the Request for Proposal document. We understand that the basis for our qualification will be as per our Prequalification Bid, and that any circumstance affecting our continued eligibility under the RFP, or any circumstance which would lead or have lead to our disqualification under the RFP, shall result in our disqualification under this process.

We agree to abide by this bid for 90 days from the date of opening of Bids and the same shall remain binding upon us and may be accepted at any time before the expiration of that period. If requested to extend the period of validity for a specified additional period, we understand that no change in the bid will be allowed for such extension and in case, we extend the validity of our bid, we will extend validity of Bid Security (EMD) also.

We declare that we have disclosed all material information, facts and circumstances to TCMPF (Aavin), which would be relevant to and have a bearing on the evaluation of our Prequalification Bid and selection.

We acknowledge and understand that in the event that TCMPF discover anything contrary to our above declarations; it is empowered to forthwith disqualify us and our Prequalification Bid from further participation in the process.

Yours faithfully,
Authorized Signatory
Name & Title of Signatory[1]

[1] Power of Attorney to be enclosed (as applicable)

PRE-QUALIFICATION PROPOSAL TEMPLATES (PQ Form 1 through 10)

13.3. Pre-Qualification Proposal Templates

The bidders are expected to respond to the RFP using the forms given in this section and all documents supporting Pre-Qualification Criteria.
Pre-qualification Proposal shall comprise of following forms

- PQ Form 1: Pre-Qualification criteria compliance sheet
- PQ Form 2: Information about the bidder
- PQ Form 3: Experience in IT System Integrator Business
- PQ Form 4: Experience in Manufacturing / Production / Supply chain domain
- PQ Form 5: Financial Capability
- PQ Form 6: Self Declaration format for Professional Human Resource
- PQ Form 7: Declaration format for not being blacklisted
- PQ Form 8: Organization Certificate
- PQ Form 9: CMM Level V Certificate
- PQ Form 10: Undertaking for setting up the local office in Tamil Nadu
- Power of Attorney / Board Resolution for the authorized signatory signing the bid
- All relevant documents in support of evaluation criteria.

Any other documents found necessary by the bidder.

13.3.1. PQ Form 1: Pre-Qualification criteria compliance sheet

#	Pre-Qualification Criteria	Documents to be attached	Compliance (Yes/No)	Reference to the supporting Documents
1.	The Bidder should be an "entity" registered under an appropriate act of parliament or laws of state legislature in India.	• A valid copy of "Certificate of Registration" from Government Authorities including "name change certificate" (if any) and Constitutional documents highlighting the IT system Integration services • Duly filled PQ Form 2: Information about the bidder of Pre-Qualification Proposal Templates		
2.	The bidder should provide PAN no., Service Tax Registration no., TIN no. under VAT Act CST Registration no. and EPF Registration no.	• Copies of PAN Card and proof for CST, VAT and Service Tax registration Certificates, EPF Registration certificate along with copies of recent Returns filed with the respective authorities. • Details to be filled in the PQ Form 2: Information about the bidder of Pre-Qualification Proposal Templates		
3.	The Bidder should have experience in Turnkey Projects / IT related services (such as application software development and maintenance, database management, networking, User Hardware, IT Compute Infrastructure etc.) over last 5 years (as on 31-Mar-2015). The Bidder should be in the business as IT System Integrator for more than 5 years as of 31-Mar-2015. SI Services should include "Application Development and Implementation" along with any 3 of the following services through a single project with the same client:	• Duly updated PQ Form 3: Experience in IT System Integrator Business of Pre-Qualification Proposal Templates • Copy of Work Orders / Contract confirming year & date (dated before 1-Apr-2010) and IT related services (application software development and maintenance)		

#	Pre-Qualification Criteria	Documents to be attached	Compliance (Yes/No)	Reference to the supporting Documents
	I. Application Support and Maintenance II. Installation and Commissioning of IT Compute Infrastructure (Data Centre Infrastructure) III. Maintenance of IT Compute Infrastructure (Data Centre Infrastructure) IV. Help Desk Services V. Training & Capacity Building			
4.	The Bidder should have successfully completed at least one IT System Integrator turnkey project experience for any manufacturing/production/supply chain domain with a minimum project value of INR 10 Crores. The project should have been successfully implemented (the solution implemented should be operational) in last 5 years as on 31-Mar-2015 In case projects are quoted for any currency other than INR, selling exchange rate of State Bank of India as on 31-Mar-2015 will be considered for conversion purposes	• Duly updated PQ Form 4: Experience in Manufacturing/Production/Supply chain domain of Pre-Qualification Proposal Templates • One project with IT SI Turnkey project with Work order dated on or after 1-Apr-2010 • Client certificate stating the successful Completion of the project *Note:* • *In case of Public Private Partnership (PPP) projects, the bidder should furnish the necessary supporting documents (Work Order / Client Certificates) to enable the evaluation committee to ascertain the project value else such projects shall not be considered for evaluation*		
5.	The Bidder should have average annual Turnover of INR 60 crores for the last three financial years i.e. FY: 2011-12, FY: 2012-13, FY: 2013-14 from activities related to Information Technologies Activities	• Copies of Financial Statements and Certificate from Statutory Auditor ascertaining Turnover from IT System Integration (SI) services for the last 3 financial years for the Bidder i.e. FY: 2011-12, FY: 2012-13, FY: 2013-14		

#	Pre-Qualification Criteria	Documents to be attached	Compliance (Yes/No)	Reference to the supporting Documents
	The Bidders should provide statements for their legal entities only. Financial statements should not include values from Parent organizations, subsidiaries, etc.	• Duly updated PQ Form 5: Financial Capability of Pre-Qualification Proposal Templates		
6.	The Bidder should have positive net worth as on 31-Mar-2014	• A copy of Certificate signed by the statutory auditor/Chartered Accountant certifying the positive net worth as on 31-Mar-2014		
7.	Bidder should have a minimum number of 100 IT Technically Qualified Professional Staff as on 31-Mar-2015 on its rolls in India.	• A self-certification in the prescribed template as per PQ Form 6: Self Declaration format for Professional Human Resource of Pre-Qualification Proposal Templates from the bidder's HR Department certifying the list of minimum 100 IT technically qualified professionals in the rolls of the bidder's organization in India as on 31-Mar-2015 • Technically Qualified professional staff means those persons who have Engineering and / or MCA and / or Management and / or Doctoral degrees.		
8.	Bidder should not have been black listed or had their contract terminated for default on the part of the bidder by any State Government or Government agency or public sector body in India.	• A self-certified letter in the prescribed template as per PQ Form 7: Declaration format for not being blacklisted of Pre-Qualification Proposal Templates by the Authorized signatory of the bidder's organization		
9.	Bidder should have a valid ISO 9001:2008 certification.	• Copy of certification which is valid on Tender submission date. PQ Form 8: Organization Certificate of Pre-Qualification Proposal Templates		
10.	Bidder should hold a valid CMM Level V certification	• Relevant certificate needs to be attached which is valid		

#	Pre-Qualification Criteria	Documents to be attached	Compliance (Yes/No)	Reference to the supporting Documents
		on Tender due date PQ Form 9: CMM Level V Certificate of Pre-Qualification Proposal Templates		
11.	The Bidder Should have a local office in Chennai, Tamil Nadu. The bidder shall mention the full address and telephone numbers of the Chennai office. Alternately, the bidder shall give an undertaking for setting up the local office in Chennai within 2 months from date of contract signing, if awarded the contract.	• Local address proof such as copy of the rent Agreement /latest Telephone bills. *(OR)* • If the bidder doesn't have local office then bidder shall submit an undertaking letter as per the prescribed format in PQ Form 10: Undertaking for setting up the local office in Tamil Nadu of Pre-Qualification Proposal Templates accepting to setup a local office in Tamil Nadu within 2 months from date of contract signing		
12.	The Bidder should furnish, as part of the bid, an Earnest Money Deposit (EMD) of Rs. 20,00,000/-	• The EMD should be denominated in Indian Rupees, and should be in the form of Demand Draft/ Bank Pay Order from a Scheduled Bank as per Section: 4.4.10 Volume I, in this RFP		

13.3.2. PQ Form 2: Information about the bidder

S. No.	Information Sought	Details to be Furnished	Page No. Reference for supporting documents
1.	Name and address of the bidding Entity		
2.	Incorporation status of the entity (public limited / private limited, etc.)		
3.	Year of Establishment		
4.	Date of registration		
5.	Registrar of Companies Reference No.		
6.	Details of Entity registration		
6.1	Service Tax Registration no.		
6.2	PAN under Income Tax Act		
6.3	TIN under VAT Act		
6.4	CST Registration No.		
6.5	EPF Registration No.		
6.6	Name, Address, E-Mail, Phone Number, Fax Number, and Mobile Number of Contact Person		

13.3.3. PQ Form 3: Experience in IT System Integrator Business

S. No.	Description	Criteria	Details	Compliance to criteria (Yes / No)	Page No. reference in the proposal	Page No. reference in the respective work order / Client Certificate
1	Name of the project					
2	Name of the client					
3	Work Order Date	Dated on or before 1-Apr-2010				
4	Date of Completion (if applicable)	Completed projects within last 5 years on or before 31-Mar-2015 preferred, If Completion certificate not available, please specify reasons.				
5	Compliance to the scope	Scope of services*				
A	Application Development	Mandatory scope				
B	Application Support and Maintenance	Conditional scope				
C	Installation and Commissioning of IT Compute Infrastructure (Data Centre Infrastructure)	Conditional scope				
D	Maintenance of IT Compute Infrastructure (Data Centre Infrastructure)	Conditional scope				
E	Help Desk Services	Conditional scope				
F	Training & Capacity Building	Conditional scope				

*Note:

- The scope of services should be clearly highlighted in the work order / client certificate along with the corresponding reference page numbers. Application Development is a mandatory scope and the project should meet any 3 of the 5 conditional scope provided
- Conditional scope means the scope required for meeting the eligibility criteria through compliance to the required number of scope options

13.3.4. PQ Form 4: Experience in Manufacturing / Production / Supply chain domain

S. No.	Description	Criteria	Details	Compliance (Yes / No)	Page No. reference in the proposal	Page No. reference in the respective work order / Client Certificate
1	**Name of the project**					
2	**Name of the client**					
3	**Work Order Date**	Dated on or before 1-April-2010				
4	**Date of Completion / Implementation**	Within the last 5 years as on 31-Mar-2015				
5	**Value of the project**	More than INR 10 Crores				
6	**Project Location**	NA				
7	**Scope of Services**					
a	Application Development					
b	Application Support and Maintenance					
c	Installation and Commissioning of IT Compute Infrastructure (Data Centre Infrastructure)					
d	Maintenance of IT Compute Infrastructure (Data Centre Infrastructure)					
e	Help Desk Services					
f	Training & Capacity Building					

*Note:

- The scope of services should be clearly highlighted in the work order / client certificate along with the corresponding reference page numbers.

13.3.5. PQ Form 5: Financial Capability

S. No.	Financial Year	Turnover from IT System Integration Business	Page No. reference to the supporting document
1	2013-14		
2	2012-13		
3	2011-12		

Note:
The turnover from IT System Integration Business should be clearly established by the supporting documents viz. Statutory Auditor certificate OR Audited Financial Statements

13.3.6. PQ Form 6: Self Declaration format for Professional Human Resource

<This declaration letter should be printed in Bidder's letterhead>

<Date>

To
Managing Director,
Tamil Nadu Cooperative Milk Producers' Federation Ltd,
Aavin Illam, Madhavaram Milk Colony,
Chennai -51, Tamil Nadu

Ref: RFP Notification no. **3637/IDMS/2015** dated 02-Apr-2015

Sub. : Self Declaration of Professional Human Resource in response to the above referred RFP

Dear Sir,

We confirm that our company,/ Organization _____, has more than 100 technically qualified personnel manpower on our HR rolls as on 31st March 2015. It is confirmed that the details of personnel supplied are on active payroll of the organization.

Encl: List of IT technically qualified professionals including details as Name, Date of Birth, Date of Joining the Organization, Educational Qualification, E-Mail Address, and Mobile Number

Head HR Signatory's Signature:
Name of Head HR:
Bidder's Company Seal:
Place & Date:

13.3.7. PQ Form 7: Declaration format for not being blacklisted

<This declaration letter should be printed in Bidder's letterhead>

{Place}
{Date}

To:
Managing Director,
Tamil Nadu Cooperative Milk Producers' Federation Ltd,
Aavin Illam, Madhavaram Milk Colony,
Chennai -51, Tamil Nadu

Ref: RFP Notification no. **3637/IDMS/2015** dated 02-Apr-2015

Subject: Self Declaration of not been blacklisted in response to the above referred RFP

Dear Sir,

We confirm that our company / organization, _____, is not blacklisted / sanctioned or barred from performing any services in any manner whatsoever by any of the State and/or central Government and / or quasi-government agency or local bodies in India on any ground including but not limited to indulgence in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

Place:

Date:

Authorized Signatory's Signature:

Authorized Signatory's Name and Designation:

Bidder's Company Seal:

13.3.8. PQ Form 8: ISO Certificate

S.No.	Name of Certification	Name of Certificate issuing Authority	Name of the entity to which the certificate is issued	Certificate issue date	Certificate expiry date	Page no. reference in the proposal
1.	ISO 9001:2008 Certification					

13.3.9. PQ Form 9: CMM Level V Certificate

S.No.	Name of Certification	Name of Certificate issuing Authority	Name of the entity to which the certificate is issued	Certificate issue date	Certificate expiry date	Page no. reference in the proposal
1.						

13.3.10. PQ Form 10: Undertaking for setting up the local office in Tamil Nadu

<This declaration letter should be printed in Bidder's letterhead>

<Location, Date>

To:
Managing Director,
Tamil Nadu Cooperative Milk Producers' Federation Ltd,
Aavin Illam, Madhavaram Milk Colony,
Chennai -51, Tamil Nadu

Sir,

Sub: Declaration for setting up a local office in Tamil Nadu

I, <Name>, <Designation> authorized representative of <Name of the Bidder>, hereby solemnly confirm that the Company has a registered office in <Address>. I hereby declare that we do not have local office in Chennai, Tamil Nadu. However, we agree to set up a local office in Chennai, Tamil Nadu in the event of being declared the successful bidder within 2 months from the Date of signing of the contract.

In the event of not setting up a local office within 2 months, TCMPF (aavin) reserves the right to terminate the Contract without any compensation to the Company.

Thanking you,
Yours faithfully,
Authorized Signatory

Name:
Designation:
Date:
Seal:

TECHNICAL PROPOSAL TEMPLATES

13.4. Technical Proposal Templates

The bidders are expected to respond to the RFP using the forms given in this section and all documents supporting Technical Evaluation Criteria.

Technical Proposal shall comprise of following forms:

Forms to be used in Technical Proposal:

1. Technical Proposal Bid Letter
2. Technical Solution Offered
3. Tech Form 1: Technical criteria compliance sheet
4. Tech Form 1.A: Format for providing completed IT System Integrator Project Information
5. Tech Form 1.B: Format for providing Data Center Project Maintenance
6. Tech Form 1.C: Format for providing Application Development Project Information
7. Tech Form 1.D: Format for providing Operations & Maintenance Services Project Information
8. Tech Form 1.E: Format for providing Dairy Project Information
9. Tech Form 1.F: Format for providing e-governance project experience
10. Tech Form 2.A: Technical Solution proposed
11. Tech Form 2.B: Approach for SLA Management
12. Tech Form 2.C: Training & Change Management
13. Tech Form 2.D: Help Desk Services
14. Tech Form 3.A: Project Understanding
15. Tech Form 3.B: Project Management
16. Tech Form 3.C: Work Plan Management
17. Tech Form 3.D: Proof of Concept
18. Tech Form 4: Team Composition
19. Tech Form 5: CV Format
20. Tech Form 6: Financial Turnover Details
21. Tech Form 7: Statement of Deviation from Required Specifications
22. Manufacturer's Authorization Forms (MAF)
23. Template for Bill of Material (BOM)

All relevant documents in support of evaluation criteria
Any other documents found necessary by the bidder

13.4.1. Technical Proposal Bid Letter

<This letter should be printed in Bidder's letterhead>

To

Tamil Nadu Cooperative Milk Producers' Federation Ltd
Aavin Illam, Madhavaram Milk Colony,
Chennai – 600051
Tamil Nadu

Subject: Appointment of System Integrator to Design, Develop, Test, Install, Operate, Maintain & Manage IDMS Application for AAVIN (TCMPF)

Reference: Tender No: **3637/IDMS/2015** dated 02-Apr-2015

Sir/ Madam,
We, the undersigned Bidders, having read and examined in detail all the RFP documents do hereby propose to provide the services as specified in the RFP reference **3637/IDMS/2015** dated 02-Apr-2015 along with the following:

1. EARNSET MONEY DEPOSIT (EMD)

We have enclosed an EMD in the form of a Demand Draft/Bank Order for the sum of Rs. 20,00,000/- (Rupees Twenty Lakhs only). This EMD is liable to be forfeited in accordance with the provisions of the Volume I, Section 13 - General Conditions of the Contract.

2. DEVIATIONS

We declare that all the services shall be performed strictly in accordance with the Tender documents except for the variations, assumptions and deviations, all of which have been detailed out exhaustively in the following statements, irrespective of whatever has been stated to the contrary anywhere else in our Tender - **Statement of Deviations from Required Specifications (Section 13.4.21)**

Further we agree that additional conditions or assumptions, if any, found in the Tender documents, other than those stated in deviation schedule, shall not be given effect to.

3. CONTRACT PERFORMANCE BANK GUARANTEE

We hereby declare that in case the contract is awarded to us, we shall submit the contract performance bank guarantee in the form prescribed in Section 13.8

We hereby declare that our bid is made in good faith, without collusion or fraud and the information contained in the bid is true and correct to the best of our knowledge and belief.

We understand that our bid is binding on us and that you are not bound to accept a bid you receive.

Thanking you,

(Signature of the Bidder)
Printed Name
Designation

Date:
Place:
Business Address:
E-mail Address:
Seal:

13.4.2. Technical Solution Offered

The bidder should submit the following documents in detail in the Technical Solution Document and should make a presentation of the same at TCMPF (*If required).*

1. Understanding of the project concept by the bidder
2. Technical Solution Offered and clear articulation of benefits to TCMPF of various components of the solution vis-à-vis other options available
3. Extent of compliance to technical requirements specified in the scope of work
4. Methodology to be adopted by the bidder for implementing and commissioning the project. Any best practices adopted, risk experienced and lessons learned in the previous projects should also be submitted. Detailed information to be provided for the following:
    a. Network infrastructure
    b. Computing infrastructure
    c. Security infrastructure
    d. Storage infrastructure
    e. COTS (Commercial off the shelf) and Bespoke Application
    f. User Experience
    g. DR (Disaster Recovery) / BCP (Business Continuity Plan) and infrastructure
5. Methodology to be adopted by the bidder for Operating, Managing and maintaining the project. Any best practices adopted, risk experienced and lessons learned in the previous project should also be submitted. Detailed information to be provided for:
    a. Help Desk Services
    b. Backup & Restoration
6. Any implementation of optimization of Technology should also be covered
7. Highlighting adherence to Best Practices
8. Strength of the Bidder to provide services including examples or case-studies of similar solutions deployed for other clients
9. Unpriced Detailed Bill of Material for proposed solution
10. Value Proposition in IT servers specification over and above minimum specification provided in RFP

Description	To be filled by the Bidder(Yes/No)
Whether necessary documents have been enclosed as specified above?	

13.4.3. Tech Form 1: Technical criteria compliance sheet

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
1	**Past Experience of the responding firm**			**50**		
A	**Financial Turnover**	Average Turnover for the Bidder from IT related services which include Application development & support / IT hardware supply & maintenance / Data Centre establishment & maintenance / providing network connectivity during the last three financial years (FY: 2011-2012, FY: 2012-2013, FY: 2013-2014)	The Bidder having an average Turnover for last three financial years (FY: 2011-2012, FY: 2012-2013, FY: 2013-2014), will be awarded marks as below • >=100 crore = 5 marks • >=90 crore but < 100 crore = 4 marks • >=80 crore but < 90 crore = 3 marks • >=70 crore but < 80 crore = 2 marks • >=60 crore but < 70 crore = 1 mark	**5**	Duly filled **Tech Form 6** of Technical Proposal Templates, supported by documentary evidence.	
B	**System Integration projects**	The bidder should submit **THREE** projects and provide client references for successful completion/ongoing of an integrated turnkey project in India comprising of at least any two of the following: • Application software development • Supply & Commissioning	Average to be used for the maximum of 3 projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 20 Crores = **10 marks**	**10**	Duly filled **Tech Form 1.A** of Technical Proposal Templates, supported by documentary evidence	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
		of IT Compute Infrastructure • O&M phase for maintaining all of the above.	• More than INR 16 Crores to INR 20 Crores = **8 marks** • More than INR 12 Crores to INR 16 Crores = **6 marks** • More than INR 8 Crores to INR 12 Crores = **4 marks** • More than INR 4 Crores to INR 8 Crores = **2 marks** • Else 0			
C	**IT Data Centre Infrastructure commissioning & management** *(value pertaining to IT Infrastructure management would be considered for evaluation; in case the break-up value is not explicitly mentioned, 30% of the project value would be considered for evaluation)*	The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of IT compute Infrastructure supply & commissioning in India	Average to be used for the maximum of 3 projects for evaluation. For each project the marks would be based on the following : If the Average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 6 Crores = **5 marks** • More than INR 5 Crores to INR 6 Crores = **4 marks** • More than INR 4 Crores to INR 5 Crores = **3 marks** • More than INR 3 Crores to INR 4 Crores = **2 marks** • More than INR 2 Crore to INR 3 Crores = 1 **marks**	**5**	Duly filled **Tech Form 1.B** of Technical Proposal Templates, supported by documentary evidence	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
			• Else 0			
D	**Software Development** *(value pertaining to software development and management component would be considered for evaluation; in case the break-up value is not explicitly mentioned, 10% of the project value would be considered for evaluation)*	The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of *Software Development* with value more than INR 1.00 Crore – for software development and management component in India; such projects should core services offered through Mobile based Services to citizens or large private stakeholders	Average to be used for the maximum of **3** projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 5 Crores = **10 marks** • More than INR 4 Crores to INR 8 Crores = **4 marks** • More than INR 6 Crores to INR 4Crores = **3 marks** • More than INR 4 Crores to INR 3Crores = **2 marks** • More than INR 2 Crore to INR 2 Crores = **1 mark** • Else 0	**10**	Duly filled **Tech Form 1.C** of Technical Proposal Templates, supported by documentary evidence	
E	**Operations & Maintenance Services** *(value pertaining to O&M services for Application/IT Compute*	The bidder should have experience in providing similar Operations & Maintenance Services for application, IT Infrastructure management in India.	Average to be used for the maximum of 3 projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3	**10**	Duly filled **Tech Form 1.D** of Technical Proposal Templates, supported by documentary evidence	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
	Infrastructure component would be considered for evaluation; in case the break-up value is not explicitly mentioned, 10% per year of the project value for the O&M period would be considered for evaluation)	The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of Operations and Maintenance Services in India	Projects Divided by 3] is: • More than INR 6 Crores PA = **10 marks** • More than INR 5 Crores PA to INR 6 Crores PA = **8 marks** • More than INR 4 Crores PA to INR 5 Crores PA = **6 marks** • More than INR 3 Crores PA to INR 4 Crores PA = **4 marks** • More than INR 2 Crore PA to INR 3 Crores PA = **2 marks** • Else 0			
F	**Dairy Project Experience**	The bidder should have experience in successful implementation project with Dairy sector in any State/UT in India The Bidder should submit **TWO** projects and provide client references for successful completion/ongoing that	Average to be used for the maximum of **2** projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 2] is: • More than INR 5 Crores = **5 marks**	**5**	Duly filled **Tech Form 1.E** of Technical Proposal Templates, supported by documentary evidence	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
		clearly mentions the scope of services provided to Dairy Sector in India	• More than INR 4 Crores to INR 5 Crores = **4 marks** • More than INR 3 Crores to INR 4Crores = **3 marks** • More than INR 2 Crores to INR 3Crores = **2 marks** • More than INR 1 Crore to INR 2 Crores = **1 marks** • Else 0			
G	**e-Governance implementation Project Experience**	The bidder should have experience in successful e-Governance project implementation in any State/UT Central Government department in India	Average to be used for the maximum of **3** projects for evaluation. For each project the marks would be based on the following : If the average of Project Value [Total Project Value of 3 Projects Divided by 3] is: • More than INR 5 Crores = **5 marks** • More than INR 4 Crores to INR 5 Crores = **4 marks** • More than INR 3 Crores to INR 4Crores = **3 marks** • More than INR 2 Crores to INR 3Crores = **2 marks** • More than INR 1 Crore to INR 2 Crores = **1 mark**	**5**	Duly filled **Tech Form 1.F** of Technical Proposal Templates, supported by documentary evidence	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
			• Else 0			
Note : • **For all projects cited for the above mentioned criteria the bidder must ensure to comprehensively establish the scope project value & project break-up** • **In case of PPP projects, the bidder should furnish the necessary supporting documents (Work Orders / Certificates from the clients) to enable the evaluation committee to ascertain the project value lest such projects shall not be considered for evaluation.**						
2	**Solution proposed**			**20**		
A	**Proposed solution**	Requirements addressed as mentioned in different parts of the RFP and the quality of the solution	Evaluation Committee will evaluate whether all the points/ requirements mentioned in the RFP are addressed well and award points accordingly, the important parameters being:- • Solution architecture conceptualized for this entire project, approach on data model, data design, UI and UX. = **1 mark** • Robustness of field office device functionality, properties etc. =**1 mark** • Strategy for high availability of solution =**1 mark** • Data Centre infrastructure robustness & flexibility suggested = **1 mark** • Comprehensiveness of	**5**	**Tech Form 2.A** Detailed write-up covering all the points as mentioned in the point system	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
			detailed Bill of material of all the components in unpriced BOM (e.g. software, hardware, etc.) along with their quantities = **1 mark**			
B	**Proposed Approach for SLA Management**	Evaluation Committee will evaluate whether the implementation methodology is in line with the requirement. The important parameters being:- • Plan for meeting the SLA norms. • Redundancy and failover options. • Spare equipment availability plans	In this section, the responding firm should: • Explain the understanding of the project requirements, highlight the expected support from the State, approach to the services, SLA management methodology, methodology for carrying out the activities for expected output **= 2 marks** • Highlight the associated risks / problems and plans for mitigation and explain the technical approach it would adopt to address them = **1 mark** • Explain the methodologies the responding firm proposes to adopt and highlight the	**5**	**Tech Form 2.B** Detailed write-up covering all the points as mentioned in the point system	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
			compatibility of those methodologies with the proposed approach = **1 mark** • Planning and Building Infrastructure (assessment, design, integration / migration of existing Portal infrastructure) = **1 mark**			
C	**Training**	Proposed Training and Change Management plan description to be looked into	The Evaluation will be based on: • Proposed Training Schedule = **3 marks** • Agree to train 5% over and above the = **2 marks** *(The same shall also be reflected in the contract)*	**5**	**Tech Form 2.C** Week-wise training schedule Concurrence-cum-declaration to train more than 5% of the requirement (without any compromise in quality) as specified in the point system	
D	**Formation/Location of Helpdesk & other manpower support**	Proposed methodology of formation of the manpower support team. Operating and Maintaining Infrastructure	The Evaluation will be based on • Agree to resolve "Helpdesk support – Medium/ Low priority calls" ≥50% of the current mandated SLA = **3 marks** • Agree to resolve "Helpdesk support – Medium/ Low	**5**	**Tech Form 2.D** Concurrence-cum-declaration to meet SLAs (without any compromise in quality)	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
			priority calls" <50% to ≥25% of the current mandated SLA = 2 **marks** *(The same shall also be reflected in the contract)*			
3	**Proposed Approach & Methodology**			**15**		
A	**Project Understanding**	Key Understanding of background & project requirements	• Detailed Understanding of • TCMPF (Aavin) - **1 mark** • Envisaged Objective & Outcomes of this project - **1 mark** • Field Visit findings on existing setup & Understanding of legacy solutions- **1 mark**	**3**	**Tech Form 3.A** Detailed write-up covering all the points as mentioned in the point system	
B	**Project Management**	The overall approach to be looked into	Approach clearly highlighting • Key Project Assumptions – **1 mark** • Phase-wise Strategy for milestone specified in each phase - **1 mark** Adopted by the responding firm to implement the project to meet the timelines.	**2**	**Tech Form 3.B** Detailed write-up covering all the points as mentioned in the point system	
C	**Detailed Week-wise Work Plan**	The description and quality of the work plan to be looked into.	• Evaluation will be based on the detailed Project Plan	**5**	**Tech Form 3.C** Concurrence-cum-	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
			including day wise, week wise activities with Work Breakdown Structures, Project estimates, milestones etc. – **1.5 marks** • Implementation Timelines o Agree to achieve the implementation in less 75% of the implementation time-frame as per the specified timelines = **3.5 marks** o Agree to achieve the implementation in 90% to 75% of the implementation time-frame as per the specified timelines = **2 marks** *(The same shall also be reflected in the contract)*		declaration to achieve implementation (without any compromise in quality) as specified in the point system	
D	**Technical Presentation**	Presentation by Proposed Team Members	The bidder shall demonstrate the following and Evaluation will be based as following parameters (individual parametric	**5**	**Tech Form 3.D** Detailed write-up covering all the points as mentioned	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
			weightages would be decided by the technical committee) • Prototype Workflow application demo including UI and UX for the application • Dash boarding & MIS Reporting • Application Software USP • DR operations & BCP process • Strategy IT Security & Performance testing endurance approach to be borne by SI • SMS & Mobile interface & operations • Strategic approach Manpower Deployment		in the point system	
4	**Resource Deployment[#]**			**15**		
A	**Project Director**	**None**		**0**	Duly filled **Tech Form 4** and CV format for each resource proposed to be as per **Tech Form 5**	
B	**Project Manager**	**Compliance to**		**3**	CV format for each	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
	(SPOC to deployed FT for the project)	1. Qualification 2. Relevant years of Experience 3. Certification 4. Tamil Proficiency			resource proposed to be as per **Tech Form 5**	
C	**Application Development Manager**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**	
D	**Configuration / Release Manager**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**	
E	**Business Analyst / Requirement Gathering Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**	
F	**Dairy Domain Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**	
G	**Information Architect / Data Design and Modelling Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**	
H	**UI / UX Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience		**1.5**	CV format for each resource proposed to be as per **Tech**	

S. No.	Criteria/Sub Criteria	Description	Criteria	Marks	Form to be used / Documents to be attached	Reference to supporting documents
		3. Certification			**Form 5**	
I	**Training / Capacity Building / Organizational Change Expert**	**Compliance to** 1. Qualification 2. Relevant years of Experience		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**	
J	**Network Specialist**	**Compliance to** 1. Qualification 2. Relevant years of Experience 3. Certification		**1.5**	CV format for each resource proposed to be as per **Tech Form 5**	
	Total Points			**100**		

#The SI shall ensure that the resources proposed in the response proposal to the RFP should only be deployed for the IDMS project implementation. In case of any unforeseen circumstance and reasons beyond the control of the bidding organization such as, employee resignation, medical challenges, etc. the department shall consider a replacement of resource with an equivalent or better qualification. If the proposed change is not up to the expectation of the department then a penalty as specified in the SLA shall be levied.

13.4.4. Tech Form 1.A: Format for providing completed IT System Integrator Project Information

Criteria	Project	Name of the client	Project Scope (in points)	Year of execution (From – To)	Project Cost (INR)	Page no where work order is provided	Page no where evidence for value is provided
The bidder should submit **THREE** projects and provide client references for successful completion/ongoing of an integrated turnkey project in India comprising of at least any two of the following: • Application software development • Supply & Commissioning of IT Compute Infrastructure • O&M phase for maintaining all of the above.							

13.4.5. Tech Form 1.B: Format for providing Data Center Project Maintenance

Criteria	Project	Name of the client	# of users of Data Centre	Year of execution	Value of the Project (INR)	Year of ISO 27001 certification and Valid upto	Data Center Activity (Setup / Operating / Managing)	Page no of work order, ISO certificate and value of the project
The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of IT compute Infrastructure supply & commissioning in India								

13.4.6. Tech Form 1.C: Format for providing Application Development Project Information

Criteria	Project	Name of the client	Project Scope (in points)	Year of execution (From – To)	Project Cost (INR)	Page no where work order is provided	Page no where evidence for value is provided
The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of *Software Development* with value more than INR 1.00 Crore – for software development and management component in India; such projects should core services offered through Mobile based Services to citizens or large private stakeholders							

13.4.7. Tech Form 1.D: Format for providing Operations & Maintenance Services Project Information

Criteria	Project	Name of the client	Project Scope (in points)	Year of execution (From – To)	Project Cost (INR)	Page no where work order is provided	Page no where evidence for value is provided
The bidder should have experience in providing similar Operations & Maintenance Services for application, IT Infrastructure management in India. The Bidder should submit **THREE** projects and provide client references for successful completion/ongoing that clearly mentions the scope of Operations and Maintenance Services in India							

13.4.8. Tech Form 1.E: Format for providing Dairy Project Information

Criteria	Project	Name of the client	Project Scope (in points)	Year of execution (From – To)	Project Cost (INR)	Page no where work order is provided	Page no where evidence for value is provided
The bidder should have experience in successful implementation project with Dairy sector in any State/UT in India The Bidder should submit **TWO** projects and provide client references for successful completion/ongoing that clearly mentions the scope of services provided to Dairy Sector in India							

13.4.9. Tech Form 1.F: Format for providing e-governance project experience

Criteria	Project	Name of the client	Project Scope (in points)	Year of execution (From – To)	Project Cost (INR)	Page no where work order is provided	Page no where evidence for value is provided
The bidder should have experience in successful e-Governance project implementation in any State/UT Central Government department in India							

13.4.10. Tech Form 2.A: Technical Solution proposed

The bidder should articulate the proposed **Technical Solution document in NOT more than 25 Pages.**

The section shall details for the following

a. Solution architecture conceptualized for this project.
b. Strategy for high availability for SMS based connectivity, properties etc
c. IT infrastructure robustness & flexibility suggested
d. Comprehensiveness of detailed Bill of material of all the components in unpriced BOM (e.g. software, hardware, etc.) along with their quantities

13.4.11. Tech Form 2.B: Approach for SLA Management

The bidder should articulate the proposed **approach for SLA Management Solution document in NOT more than 5 Pages.**

The section shall details for the following

a. Explain the understanding of the project requirements, highlight the expected support from the State, approach to the services, SLA management methodology, methodology for carrying out the activities for expected output
b. Highlight the associated risks / problems and plans for mitigation and explain the technical approach it would adopt to address them
c. Explain the methodologies the responding firm proposes to adopt and highlight the compatibility of those methodologies with the proposed approach
d. Planning and Building Infrastructure (assessment, design, integration / migration of existing Portal infrastructure)

13.4.12. Tech Form 2.C: Training & Change Management

The bidder should articulate the proposed **approach for Training & Change Management in NOT more than 5 Pages.**

The section shall articulate the following

a. Detailed Week-wise Work Break-down structure (WBS) for successful implementation
b. The WBS shall be mapped with resource loading & GANTT / PERT diagram
c. Any room for improvement, curriculum content, target audience – strategy adopted

13.4.13. Tech Form 2.D: Help Desk Services

The bidder should articulate the proposed **approach for Help Desk service sin NOT more than 5 Pages.**

The section shall articulate the following

a. Detailed Proposed methodology of formation of the manpower support team.
b. Assumptions, envisaged challenges & Strategy for helpdesk services
c. Any room for improvement, curriculum content, target audience – strategy adopted

13.4.14. Tech Form 3.A: Project Understanding

The bidder should articulate the proposed **approach for Project Understanding in NOT more than 5 Pages.**

The section shall articulate the following

a. Key Understanding of background & project requirements
b. Understanding on TCMPF (Aavin)
c. Field Visit findings on existing setup
d. Understanding on Envisaged Objective & Outcomes of this project
e. Understanding of Dairy Industry

13.4.15. Tech Form 3.B: Project Management

The bidder should articulate the proposed **approach for Project Management in NOT more than 5 Pages.**

The section shall articulate the following clearly highlighting

a. Key Project Assumptions
b. Phase-wise Strategy for milestone specified in each phase adopted by the responding firm to implement the project to meet the timelines.

13.4.16. Tech Form 3.C: Work Plan Management

The bidder should articulate the proposed **approach for Detailed Work plan in NOT more than 5 Pages.**

The section shall articulate the following clearly highlighting

a. Key Project Assumptions
b. Evaluation will be based on the detailed Project Plan including day wise, week wise activities with Work Breakdown Structures, Project estimates, milestones etc.

13.4.17. Tech Form 3.D: Proof of Concept

The bidder should articulate & also present the through a demonstration of the envisaged solution proposed. The section shall articulate the following

The section shall articulate the following clearly highlighting

a. Key Project Assumptions
b. Prototype Workflow application demo

c. Dash boarding & MIS Reporting
d. Application Software USP
e. DR operations & BCP process
f. Strategy IT Security & Performance testing endurance approach to be borne by SI
g. GPRS / SMS Connectivity
h. Strategic approach for Manpower Deployment

13.4.18. Tech Form 4: Team Composition

S.No.	Position Assigned	Name of Staff Member Proposed
1.	**Project Director**	
2.	**Project Manager (SPOC to deployed FT for the project)**	
3.	**Application Development Manager**	
4.	**Configuration / Release Manager**	
5.	**Business Analyst / Requirement Gathering Expert**	
6.	**Dairy Domain Expert**	
7.	**Information Architect / Data Design Expert**	
8.	**UI / UX Expert**	
9.	**Training / Capacity Building / Organizational Change Expert**	
10.	**Network Specialist**	

Bidders are requested to add additional rows for other personnel that they propose will be assigned for this project.

13.4.19. Tech Form 5: CV Format

Limit to maximum 5 Pages per CV. Please ensure that the first 10 CVs submitted are in the serial order as given for the Team Composition.

General Information	
Proposed Role in the Project	
Name of the person	
Current Designation / Job Title	
Current job responsibilities	
Proposed Responsibilities in the Project	
Academic Qualifications: • Degree • Academic institution graduated from • Year of graduation • Specialization (if any) • Key achievements and other relevant information (if any)	
Professional Certifications (if any)	
Total number of years of experience	
Number of years with the current company	
Summary of the Professional / Domain Experience	
Number of complete life cycle implementations carried out	
The names of customers (Please provide the relevant names)	
Past assignment details (For each assignment provide details regarding name of organizations worked for, designation, responsibilities, tenure) Prior Professional Experience covering: • Organizations worked for in the past o Organization name o Duration and dates of entry and exit o Designation Location(s) o Key responsibilities • Prior project experience o Project name o Client o Key project features in brief o Location of the project o Designation o Role o Responsibilities and activities o Duration of the project Please provide only relevant projects.	
Proficient in languages (Against each language listed indicate if speak/read/write)	

13.4.20. Tech Form 6: Financial Turnover details

S. No.	Financial Year	Turnover from IT related services	Page No. reference to the supporting document
1	2013-14		
2	2012-13		
3	2011-12		

Note:
The turnover from IT System Integration Business should be clearly established by the supporting documents viz. Statutory Auditor certificate OR Audited Financial Statements

13.4.21. Tech Form 7: Statement of Deviation from Required Specifications

<This letter should be printed in Bidder's letterhead>

Date: dd/mm/yyyy

To,

Tamil Nadu Cooperative Milk Producers' Federation Ltd
Aavin Illam, Madhavaram Milk Colony,
Chennai – 600051
Tamil Nadu
Phone: 044 - 23464500-03
Fax: 044 - 044 23464505

Reference: Tender Number. **3637/IDMS/2015** dated 02-Apr-2015

Sir,

There are no technical deviations (null deviations) from the required specifications of tendered items and schedule of requirements. The entire work shall be performed as per your specifications and documents.

OR (Strike out whatever is not applicable)

Following is the exhaustive list of technical deviations and variations from the required specifications of tendered items and schedule of requirements. Except for these deviations and variations, the entire work shall be performed as per your specifications and documents.

S. No.	Section No.	REQ No.	Page No.	Statement of deviations and variations

Authorized Signatory
Name:
Designation:
Date:
Organization Seal:

13.5. Manufacturer's Authorisation Forms (MAF)

It is required that for each OEMs, separate MAF needs to be attached. Please ensure that all items in the Bill of Material are covered under MAF or are the product of the Bidder. Bidders are mandated to fill out the MAF for all components and services that are not produced by themselves.

In case MAF is not submitted, the Bidder needs to certify that it has the Intellectual Property of the hardware / software. In remaining cases, it will be assumed that the intellectual property will be held by the Client.

13.5.1. Manufacturers Authorization Form for Supply

Format for Manufacturers Authorization Form
(To be filled up and duly signed by authorized signatory of OEM)

To:
Managing Director,
Tamil Nadu Cooperative Milk Producers' Federation Ltd,
Aavin Illam, Madhavaram Milk Colony,
Chennai -51, Tamil Nadu

We authorize ……. To bid /quote /negotiate and finalize the contract for supply, installation, commissioning of our equipments for TN AAVIN (TCMPF) requirements vide tender No. **3637/IDMS/2015** dated 02-Apr-2015

The equipment / software covered under this certificate are as follows:

S. No.	Equipment / Software Make	Model	Configuration / Comments	Date of End-Of-Life

If the bidder fails to honour the contract, then also we will supply the equipment's at the accepted bid amount, if asked to do so.

Authorized Signatory
Name:
Designation:
Date:

13.5.2. Manufacturers Authorization Form for Support Services

Format for Manufacturers Authorization Form
(To be filled up and duly signed by authorized signatory of OEM)

To:
Managing Director,
Tamil Nadu Cooperative Milk Producers' Federation Ltd,
Aavin Illam, Madhavaram Milk Colony,
Chennai -51, Tamil Nadu

We authorize ……To provide Warranty and AMC Services for a period as specificed in the RFP for our products for AAVIN (TCMPF) requirements vide tender **3637/IDMS/2015** dated 02-Apr-2015**.** We also commit necessary backend support in terms of Technical support, spares, and upgrades, patch updates, for relevant software for a period of 7 Years from the date of issue of commissioning certificate.

The equipment / software covered under this certificate are as follows

S. No.	Equipment / Software Make	Model	Configuration / Comments	Date of End-Of-Life

If the bidder fails to provide these services on behalf of us after supply, we directly or through other agents will provide above services at the accepted bid price.

Authorized Signatory
Name:
Designation:
Date:

13.6. Template for Bill of Material

Please note that the quantities mentioned in all the tables are indicative only. TCMPF reserves the right to delete any item or modify the numbers/ quantity for any item before issuing the work order. For each item, Bidder is required to list all items that are proposed to be set up separately.

13.6.1. Form A: Bill of Material (Hardware & Infrastructure)

S.No	Particulars	Quantity	Unit Measure
A	B	C	D
1.	**User Hardware Supply & Commissioning**		
1.1.	Desktops/ /AIO with OS and Anti Virus	600	Nos
1.2.	Laptop with OS and Anti Virus	56	Nos
1.3.	Laser Printer	152	Nos
1.4.	MFPs	47	Nos
1.5.	Colour MFP	7	Nos
1.6.	Smart Device/Tablet computer	22	Nos
1.7.	POS Device with OS, Application and Anti Virus	30	Nos
1.8.	Thermal Printer	30	Nos
1.9.	UPS - 5 KVA	12	Nos
1.10.	UPS - 3 KVA	33	Nos
1.11.	UPS - 600 VA	80	Nos
1.12.	Wireless Route	10	Nos

Implementation Phase				
S.No	Particulars	Quantity	Unit Measure	Quantity Proposed by Bidder
A	B	C	D	E
2.	**IT Server Compute Infrastructure supply & Commissioning (incl. license cost, if any)**			
2.1.	Servers to Support (Application, Web, DB with hardware Encryption Device Management, Database, Business Intelligence, ETL, Mail & Messaging, File, Print & Fax, AntiVirus, Backup and Archival, EMS and others as required) with appropriate Software. [Please list each component separately]	As Required	Nos	
2.2.	HIPS	As Required	Nos	
2.3.	Access/Application Switches	As Required	Nos	
2.4.	OS Licensed (in line with server requirement envisaged above)	As Required	LS	
2.5.	SAN Storage – 40 TB with hardware and enclosures	As Required	LS	
2.6.	Middleware (in line with server requirement	As required	LS	

Implementation Phase				
S.No	Particulars	Quantity	Unit Measure	Quantity Proposed by Bidder
A	B	C	D	E
	envisaged above)			
2.7.	EMS/NMS Software (Server and other Licenses)	As Required	LS	
2.8.	Console/KVM switch/ Standard Desktop AIO	As required	Nos	
3.	**Disaster Recovery Infrastructure supply & Commissioning (incl. license cost, if any)**			
3.1.	Application Server	As Required	Nos	
3.2.	Web Server	As Required	Nos	
3.3.	Management Server	As Required	Nos	
3.4.	Database Server with Software and DB Encryption Device	As Required	Nos	
3.5.	Mail & Messaging server with software	As Required	Nos	
3.6.	Antivirus Server with Software	As Required	Nos	
3.7.	HIPS	As Required	Nos	
3.8.	Backup Server with Software	As Required	Nos	
3.9.	Archival Software	As Required	Nos	
3.10.	Access/Application Switches	As Required	Nos	
3.11.	OS (in line with server requirement envisaged above)	As Required	LS	
3.12.	SAN Storage	As Required	LS	
3.13.	Middleware (in line with server requirement envisaged above)	As Required	LS	
3.14.	EMS/NMS Software	As Required	LS	
3.15.	Console/KVM switch/Desktop	As Required	Nos	
3.16.	DR Software	As Required	Nos	
4.	**Site Preparation at specified Locations**			
4.1.	Complexes	11	Nos	
4.2.	Chilling Centres	9	Nos	
4.3.	Zonal Offices	16	Nos	
4.4.	MCCS	48	Nos	
5.	**Network Connectivity**			
5.1.	Internet Router + Modem	36	Nos	
5.2.	48 Port Switch	2	Nos	
5.3.	24 Port Switch	58	Nos	
5.4.	8 Port Switch	10	Nos	
5.5.	15 U Rack	2	Nos	
5.6.	12 U Rack	6	Nos	
5.7.	9 U Rack	56	Nos	
5.8.	Data Card	150	Nos	

Implementation Phase				
S.No	Particulars	Quantity	Unit Measure	Quantity Proposed by Bidder
A	B	C	D	E
5.9.	Bandwidth Charge for Year 0 (Upto start of Maintenance Phase)	As Required	LS	
6.	**Help Desk**			
6.1.	Supply and Commissioning of helpdesk setup (Phone, 3-seater, LAN Connectivity, Desktops, UPS, Printers, Scanners, etc.)	1	LS	
7.	**Miscellaneous**			
7.1.	Server Load Balancer	As Required	LS	
7.2.	Others, if any - Bidders should examine the requirements of the project in addition if any required for complying with the SLAs (Add additional rows if required)	As Required		

For each item, Bidder is required to provide detailed data sheet showing the specifications, model, make, etc.

Bidders are free to add rows to this table and add items that may be required from a solution perspective.

In addition, details for the following should be provided:

1. Asset Tracking: IT assets should be tracked from an automated centralized system. This will include all possible assets procured under this contract as well as assets that previously exist with the client (including Desktops, Laptops, Printers, etc.)
2. Site Preparation at specified locations is to be done from a Network Prespective to set up relevant equipment. This will incude electrical, earthing, etc. Bidders should propose a detailed SOP towards performing the same.
3. Appropriate components required for the solution including but not limited to Virtual tape library, EMS / NMS, HW Security module, VPN concentrator, Edge routers, Edge switches, Threat Mgmt system, Security Information and Event Management system, BI/analytics tools, ETL and Data Management tool should also be mentioned by the Bidder.

13.7. Compliance to Template Specification

Please fill out for each type of appliance offered.

13.7.1. Desktops AIO PC

S.No.	Features	Minimum Specifications	Compliance (Y/N)
1.	Make	Must be specified. Should be on of the top leading brands like HP, Lenovo, Dell, Sony, etc.	
2.	Model	All In One Model Required. Model Must be specified. All the relevant product brochures and manuals must be submitted.	
3.	Processor	Intel / AMD; i3 Processor or equivalent or better ; latest generation	
4.	Motherboard	OEM Motherboard	
5.	Chipset	Latest Generation compatible chipset to the supplied CPU	
6.	RAM	Memory 4GB expandable to 16GB Non-ECC DDR3 1600MHz SDRAM Memory, minimum Two DIMM slots or better	
7.	Hard Disk Drive & controller	HDD 1 TB 7200 RPM 3.5" SATA Hard Drive or better	
8.	Optical Drive	Optical Drive16X Max DVD+/ RW	
9.	Graphics	Integrated Graphics	
10.	Ethernet	NIC 10/100/1000 + WiFi inbuilt b/g/n	
11.	Slots	VGA (1), USB (6)	
12.	Ports	6 USB Ports including 2 USB 3.0 Ports, audio ports for microphone and headphone in front.	
13.	Power Supply	Bidder is free to provide the power as per the design – Should work with standard 230 V power supply.	
14.	Keyboard & Mouse	Wired OEM USB Keyboard USB 2 Button Optical Scroll Mouse (Same make as PC) At least 10" Mouse Pad of good quality should be provided.	
15.	Monitor	At least 18.5" LED Monitor , Full HD resolution; Response time (typical)- 5ms ; TCO 5 certification for Monitor;	
16.	Operating System	A proprietary Operating System Preloaded that is equivalent to Genuine Windows(R) 8.1 Professional SP1 (English) or above with updates / patches and upgrades over the period of 5 years	
17.	Compliance And Certification	As per industry standard for PC and energy star for Monitor	
18.	Drivers for different	Drivers should be freely available on OEM's web site and should be supplied in media along with PC	

S.No.	Features	Minimum Specifications	Compliance (Y/N)
	Operating systems		
19.	Others	No other non required software (including non required OEM software) should be installed. No adware, malware, bloatware, etc. should be installed in the system. A list of all software that comes with this PC should be included here. Discussions should be held with client as to which of these software is actually required to be there	
20.	Others	Standard sized plastic/cloth dust covers.	

13.7.2. Laptops

S.No.	Features	Minimum Specifications	Compliance (Y/N)
1.	Make	Must be specified. Should be on of the top leading brands like HP, Lenovo, Dell, Sony, etc.	
2.	Model	Must be specified. All the relevant product brochures and manuals must be submitted.	
3.	Processor	Intel or AMD; i3 Processor or equivalent; latest;	
4.	Chipset	Latest Generation compatible chipset to the supplied CPU	
5.	System Memory	System Memory 4GB Up to 8GB supported, 1333MHz Dual Channel DDR3,2 DIMM slots or better	
6.	Graphics	Integrated Graphics	
7.	Hard Drive	Primary Storage Options 500GB 7200RPM SATA Hard Drive (Parks & protects HDD against system drops)	
8.	Optical Drive	No optical drive	
9.	Display	Display 13.0" - 14.0" High Definition Wide LED Anti-Glare Display with minimum resolution of 1366x 768	
10.	Audio/Visual	Integrated speakers Integrated microphone Stereo headphone/line out / Stereo microphone in 720p HD webcam	
11.	Communications	Gigabit Ethernet network; WWAN 3G supported	
12.	Integrated Wireless	Wireless LAN: 802.11b/g/n and Bluetooth (BT V4.0 or above)	
13.	Keyboard	Bidder may provide OEM keyboard	
14.	Pointing Device	Touchpad with gestures support, on/off button with LED indicator, two-way scroll, two pick buttons	
15.	Battery	Battery Options 6-cell (47WHr) Lithium Ion battery integrated with optional long life cycle battery	
16.	Interfaces / Ports	Media Card Reader - One (1) VGA - One(1) HDMI- One(1) Stereo microphone in -One(1) Stereo headphone/line out -One(1) Power connector -One(1) RJ-45/Ethernet -One(1) USB 2.0 / 3.0 - Four(4) LED status indicators- Nine(9)	
17.	Operating System	A proprietary Operating System Preloaded that is equivalent to Genuine Windows(R) 8.1 Professional SP1 (English) or above with updates	

S.No.	Features	Minimum Specifications	Compliance (Y/N)
		/ patches and upgrades over the period of 5 years	
18.	Drivers for different Operating systems	Drivers should be freely available on OEM's web site and should be supplied in media along with PC	
19.	Others	No other non required software (including non required OEM software) should be installed. No adware, malware, bloatware, etc. should be installed in the system. A list of all software that comes with this PC should be included here. During delivery, discussions should be held with client as to which of these software is actually required to be there	
20.	Others	Standard OEM laptop bags	

13.7.3. Laser Printers

S.No.	Features	Specifications	Compliance (Y/N)
1.	Make	Must be specified. Should be on of the top leading brands like HP, etc.	
2.	Model	All the relevant product brochures and manuals must be submitted. Printer should support automatic duplex printing.	
3.	Printer Speed	At Least 10 Pages Per Minute / Ability to print upto A4 and Letter Sizes	
4.	Interfaces	USB , Network	
5.	Voltage	AC 220 – 240V 50/60Hz	
6.	OS Compatibility	Linux and Windows.(Linux Drivers Mandatory)	
7.	Necessary Drivers & Cables	Drivers for Windows and Linux.	
8.	Print Cartridge	One print cartridge should be able to print at least 1000 pages.	
9.	Others	The printer and all its accessories (including Tonor, Drum, etc.) should be available through ELCOT Rate Contract	
10.	Others	The Printer should come with standard accessories for printing at least 5000 pages.	

13.7.4. Multi-Functional Laser Printer

S.No.	Features	Specifications	Compliance (Y/N)
1.	Make	Must be specified. Should be one of the leading brands as HP, Toshiba, etc.	
2.	Model	All the relevant product brochures and manuals must be submitted.	
3.	Type	Desktop Model with copy, print, scan	
4.	Display panel	On Printer Display for major functions	
5.	Copying speed	22 CPM +/- 2cpm(A4)	
6.	Multiple copying	Upto 99 copies	
7.	Resolution	At least 600 x 600 Dpi	
8.	Zoom	50-200%	
9.	Copying size	all sizes upto A3	
10.	Paper capacity	Tray:1000 sheets and Bypass tray:100sheets Separate Trays for A4 and A3 paper At Least 250 sheet output bin	
11.	Paper weight	60-200 gsm	
12.	Duplex copying	Standard (Automatic)	
13.	Copying Technology	Laser	
14.	Warm up time	10 seconds or better	
15.	First copy time	6.5 seconds or better	
16.	Memory	At Least 128 MB or better	
17.	Reversible Automatic Document feeder with duplex unit	Automatic copying on both sides	
18.	Copy features	ID Card copy, Electronic sorting, Image rotation, Series copy, Combine copy(4in1)	
19.	Print speed	At least 20 PPM (A4)	
20.	Printer interface	Standard USB 2.0; Ethernet Network	
21.	Scanning speed	B/W: 17 SPM, Colour:6 SPM	
22.	Scanning Drivers	TWAIN/SANE	
23.	OS Requirements	Should run on all major OS, especially be able to connect to and run from available Windows Operating Systems.	
24.	Drivers	Drivers for Windows and Linux. The Driver Software provided for Linux should have equal capability compared to the one provided for Windows platform	
25.	Communicaiton	USB connectivity, USB Port (ability to print documents from USB drive), LAN connectivity and Send to e-Mail feature	
26.	Others	The printer and all its accessories (including Tonor, Drum, etc.) should be	

S.No.	Features	Specifications	Compliance (Y/N)
		available through ELCOT Rate Contract	
27.	Others	The Printer should come with standard accessories for printing at least 15000 pages.	

13.7.5. Multi-Functional Colour Laser Printer

S.No.	Features	Specifications	Compliance (Y/N)
1.	Make	Must be specified. Should be one of the leading brands as HP, Toshiba, etc.	
2.	Model	All the relevant product brochures and manuals must be submitted.	
3.	Type	Desktop Model with copy, print, scan	
4.	Display panel	On Printer Display for major functions	
5.	Copying speed	22 CPM +/- 2cpm(A4)	
6.	Multiple copying	Upto 99 copies	
7.	Resolution	At least 600 x 600 Dpi	
8.	Zoom	50-200%	
9.	Copying size	all sizes upto A3	
10.	Paper capacity	Tray:1000 sheets and Bypass tray:100sheets Separate Trays for A4 and A3 paper At Least 250 sheet output bin	
11.	Paper weight	60-200 gsm	
12.	Duplex copying	Standard (Automatic)	
13.	Copying Technology	Laser	
14.	Warm up time	10 seconds or better	
15.	First copy time	6.5 seconds or better	
16.	Memory	At Least 128 MB or better	
17.	Reversible Automatic Document feeder with duplex unit	Automatic copying on both sides	
18.	Copy features	ID Card copy, Electronic sorting, Image rotation, Series copy, Combine copy(4in1)	
19.	Print speed	At least 20 PPM (A4)	
20.	Printer interface	Standard USB 2.0; Ethernet Network	
21.	Scanning speed	B/W: 17 SPM, Colour:6 SPM	
22.	Scanning Drivers	TWAIN/SANE	
23.	OS Requirements	Should run on all major OS, especially be able to connect to and run from available Windows Operating Systems.	
24.	Drivers	Drivers for Windows and Linux. The Driver Software provided for Linux should have equal capability compared to the one provided for Windows platform	
25.	Communicaiton	USB connectivity, USB Port (ability to print documents from USB drive), LAN connectivity and Send to e-Mail feature	
26.	Others	The printer and all its accessories (including Tonor, Drum, etc.) should be available through	

S.No.	Features	Specifications	Compliance (Y/N)
		ELCOT Rate Contract	
27.	Others	The Printer should come with standard accessories for printing at least 15000 pages.	
28.	Printer Toner	Separate for all colours (CMYK)	

13.7.6. Smart Device / Tablet Computer

S.No.	Features	Specifications	Compliance (Y/N)
1.	Make	Must be specified.	
2.	Model	All the relevant product brochures and manuals must be submitted.	
3.	Others	7 – 12" Capacitive Touch Screen with multi-finger gestures enables.	
4.	Others	At least 2 GB RAM	
5.	Others	At least 16GB onboard storage	
6.	Others	Wifi b/g/n/ac	
7.	Others	Running Latest Version of Windows OS, iOS or Google Android OS – OEM make with no alterations or add ons. [Explanation– Models which are running on non standard version of OS provided by these three organizations will not be accepted]	
8.	Others	Upgrades to OS to be provided for the next 3 years	
9.	Others	Scratch guard and Flip Cover of the reputed brand and make to be provided	
10.	Others	At least 1 Year warranty extendable to 3 years	
11.	Others	No other non required software (including non required OEM software) should be installed. No adware, malware, bloatware, etc. should be installed in the system. A list of all software that comes with this system should be included here. During delivery, discussions should be held with client as to which of these software is actually required to be there	

13.7.7. POS Device

S.No.	Features	Specifications	Compliance (Y/N)
1.	Make	Must be specified	
2.	Model	All the relevant product brochures and manuals must be submitted.	
3.	Others	Standard POS Device with at least 12" Operator Touch Display	
4.	Others	Standard Cash Drawer	
5.	Others	Appropriate POS Software Loaded – Software to include standard POS functions including fundctions for Store, Sales, Indent and Financial Management, etc.	
6.	Others	Connectivity: Through, LAN, WiFi, Data Card, etc. Connectivity to thermal printer should be standard.	

Alternately, a standard Desktop AIO (Touch Screen Based) as specified in 13.3.1 can be offered along with a connected Cash Drawer with software applications built into the system.

13.7.8. Thermal Printer

S.No.	Features	Specifications	Compliance (Y/N)
1.	Make	Must be specified	
2.	Model	All the relevant product brochures and manuals must be submitted.	
3.	Others	Ability to print on commonly available thermal paper	
4.	Others	Ability to connect with the supplied POS machine	
5.	Others	Ability to print on thermal paper 4 inches wide	
6.	Others	Provide 50 rolls (at least 220") in appropriate cases initially with each printer	
	Others	Printer should be such that ink and paper is available with at least three different manufacturers.	

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13.7.9. UPS – 5 KVA / 3 KVA / 600 VA online UPS

S.No.	Features	Specifications	Compliance (Y/N)
1.	Make	Must be specified. Should be a leading brand as APC, etc.	
2.	Model	All the relevant product brochures and manuals must be submitted.	
3.	Power Rating	60 min backup	
4.	Technology	True On-Line Double Conversion Architecture	
5.	Nominal input voltage (VAC)	220/230/240 VAC	
6.	Input voltage Range	160-300 VAC	
7.	Operating Frequency	50Hz	
8.	Nominal output Voltage	230 VAC	
9.	Output voltage Regulation	+/-1.5%	
10.	Overload Capacity	Up to 110 % for 30sec, 111-150% for 200ms Min.	
11.	Efficiency	85%(On-Line mode)	
12.	Load Crest Factor	3 : 1	
13.	LED	LCD Display having complete information about the Input and Output data	
14.	Standard Communication ports	USB / Network LAN (For 3 and 5 KVA only)	
15.	Form Factor	Floor Mounted type	
16.	Battery Type	Sealed Maintenance Free	
17.	Battery Runtime	For 60 Min. backup minimum VAH should be 900. Batteries provided should be Sealed Maintenance Free plug and play external Batteries. Total number of batteries offered should be clearly mentioned. Voltage of each battery offered should be clearly mentioned Ampere-Hour rating of each battery offered should be clearly mentioned. Total Volt-Ampere- Hour rating of the Battery Bank Offered should be clearly mentioned	
18.	Start-On-Battery	Should allow start-up of UPS without utility input	
19.	Operating Temp.	0°C - +45°C	
20.	Storage Temp	Recommended 0°C - +45°C	
21.	Audible Noise	<50 dB battery MODE	
22.	RoHS Compliance	Should be EU RoHS / WEEE Compliant	
23.	Markings	CE	

S.No.	Features	Specifications	Compliance (Y/N)
24.	Safety	IEC 60950	
25.	EMC	EN 50091-2 /equivalent	
26.	Generator Compatible	UPS should be compatible to be connected to a generator.	
27.	Emergency Power Off	UPS should have a prominent Emergency Power Off Button	

13.7.10. Application Server / Web Server / Staging Server / Management Server / Messaging Server

S. No	Item	Requirement as to Description/Configuration/Specification	Specification Offered	Status as to Compliance (Y/N)	Deviations [2], if any
1.	Make				
2.	Model				
3.	Chassis	2 U Rack Mountable			
4.	CPU	Four Nos. of 8 Core Intel Xeon E7- or above Processor with intelligent socket that would ease the installation of CPU to avoid errors caused upgrade.			
5.	CPU L3 CACHE	24MB L3 cache or better			
6.	Motherboard	Intel® C600 Series Chipset based			
7.	Memory	128 GB DDR3 load reduced Registered memory RAM upgradable to 1.5TB			
8.	Memory Protection	Advanced ECC with Online Spare			
9.	HDD Bays	Minimum 5 Hot Plug SFF SAS/SSD disks			
10.	Optical drive Bay	USB DVD-RW			
11.	Hard disk drive	5 Nos. of SAS Hot pluggable min 900 GB, min 10k RPM			
12.	Controller	PCIe 3.0 based SAS Raid Controller with RAID 0/1/1+0/5/5+0 with 1 GB battery backed write cache with support for caching in SSD Drives			
13.	Networking features	10Gb 2-port Ethernet adaptor supporting enterprise class features such as VLAN tagging, NIC teaming (bonding), and jumbo frames			
14.	Ports	USB 2.0 support With 5 total ports: (2) ports up front, Dedicated Management Port			

[2] Deviations should conform to the Description/specifications/Configuration specified above or higher

S. No	Item	Requirement as to Description/Configuration/Specification	Specification Offered	Status as to Compliance (Y/N)	Deviations [2], if any
15.	Power Supply	Redundant Power Supplies			
16.	Fans	Redundant Fans			
17.	OS	Enterprise Class Server Operating System (Open Standard)			
18.	OS Support	Microsoft Windows , Red Hat Enterprise Linux, SUSE Linux Enterprise Server (SLES), Oracle Solaris			
19.	HBA	Dual Port HBA Cards for connecting the Storages			
20.	Industry Standard Compliance	ACPI 2.0 Compliant, PCIe 3.0 Compliant, USB 2.0 Support			

13.7.11. Database Server

S. No	Item	Description of Minimum Requirement	Specification Offered	Compliance (Y/N)	Deviations[3], if any
1.	Make				
2.	Model				
3.	Chassis	4U Rack Mountable			
4.	CPU	Intel Xeon E7-88XX CPU with 12 Cores or better.			
5.	CPU L3 CACHE	30MB L3 cache or better			
6.	Motherboard	Support for at least 8 Processors on the Motherboard			
7.	Memory	At least 256 GB DDR3 load reduced Registered memory RAM upgradable to 1.5TB running at at least 1666MHz			
8.	Memory Protection	Advanced ECC with Online Spare			
9.	HDD Bays	Minimum 5 Hot Plug SFF SAS/SSD disks			
10.	Optical drive Bay	USB DVD-RW			
11.	Hard disk drive	6 Nos. of Hot pluggable SAS 15K 900 GB configured in appropriate RAID level			
12.	Controller	PCIe 3.0 based SAS Raid Controller with RAID 0/1/1+0/5/5+0 with 1 GB battery backed write cache with support for caching in SSD Drives			
13.	Networking features	10Gb 2-port Ethernet adaptor supporting enterprise class features such as VLAN tagging,			

[3] Deviations should conform to the Description/specifications/Configuration specified above or higher

S. No	Item	Description of Minimum Requirement	Specification Offered	Compliance (Y/N)	Deviations[3], if any
		NIC teaming (bonding), and jumbo frames			
14.	Ports	USB 2.0 support With 5 total ports: (2) ports up front, Dedicated Management Port			
15.	Power Supply	Redundant Power Supplies			
16.	Fans	Redundant Fans			
17.	OS	Enterprise Class Server Operating System (Open Standard)			
18.	OS Support	Microsoft Windows , Red Hat Enterprise Linux, SUSE Linux Enterprise Server (SLES), Oracle Solaris			
19.	HBA	Dual Port HBA Cards for connecting the Storages			
20.	Industry Standard Compliance	ACPI 2.0 Compliant, PCIe 3.0 Compliant, USB 2.0 Support			

13.7.12. Host Intrution Protection System (HIPS)

S.No.	Specifications	Compliance (Y/N)
1.	All critical servers should be enabled with Host based Intrusion Prevention System	
2.	The HIPS protect against the entire classes of attacks, including port scans, buffer overflows, Trojan horses, malformed packets, malicious HTML requests, and e-mail worms.	
3.	HIPS Should provide automated, real-time intrusion detection and should protect by analyzing the events, operating system logs and inbound/outbound network traffic on enterprise servers.	
4.	The HIPS should offer an enterprise-scalable architecture; the HIPS should be scalable to thousands of agents per manager.	
5.	The HIPS should use the HTTP and SSL protocols for the management interface and for the communication between the HIPS and management center. The HIPS should reside between the applications and the kernel, enabling maximum application visibility with minimal impact to the stability and performance of the underlying operating system.	
6.	When an application attempts an operation, the HIPS should check the operation against the application's security policy, making a real-time allow or deny decision on its continuation and determining if logging the request is appropriate.	
7.	By combining security policies implementing distributed firewall, operating system lockdown and integrity assurance, and audit event collection capabilities in default policies for servers, the HIPS should provide defense-in-depth protection for exposed systems.	
8.	The HIPS should be supported at least on the following platforms: · Microsoft Windows · Solaris (SPARC) · Red Hat Enterprise Linux · SuSE Linux Server	
9.	It should support Signature as well as behavioral based detection	
10.	It should support policies creation based on – User defined, Adaptive mode and Learn mode	
11.	It should support desktop firewall capabilities to directly block unwanted traffic	
12.	HIPS solution should provide at least below control detection on Files, Registry, Applications Services – o Create o Modify o Change Permission o Read o Read / Write	

S.No.	Specifications	Compliance (Y/N)
	o Delete	
13.	HIPS Solution should provide blocking of unwanted applications trying to run	
14.	HIPS solution should provide facility to create User defined signatures	
15.	HIPS solution should provide protection from known attacks like – SQL injection, Cross Site scripting, Buffer Overflow without having signature updates	
16.	HIPS solution should provide vulnerability shielding to the application not having patches installed	

13.7.13. Antivirus Software

S.No.	Specification	Compliance (Y/N)
1.	Should be monitored centrally and IPS can be enabled with the anti-virus solution. Any patches should be added at the central location itself	
2.	Should restrict e-mail bound Virus attacks in real time without compromising performance of the system	
3.	Should be capable of providing multiple layers of defence	
4.	Should be capable of installation on both the gateway as well as mailing servers. Inbound and outbound monitoring on all data transfer mechanisms and all e-mail systems	
5.	Should be capable of detecting and cleaning virus infected attachments as well	
6.	Should support scanning for ZIP, RAR compressed files, and TAR archive files	
7.	Should support online upgrade, where by most product upgrades and patches can be performed without bringing messaging server off-line.	
8.	Should use multiple scan engines during the scanning process	
9.	Should support in-memory scanning so as to minimize Disk IO.	
10.	Should support Multi-threaded scanning	
11.	Should support scanning of a single mailbox or a one off scan.	
12.	Should support scanning by file type for attachments	
13.	Should support scanning of nested compressed files	
14.	Should be capable of specifying the logic with which scan engines are applied; such as the most recently updated scan engine should scan all emails etc	
15.	Should support heuristic scanning to allow rule-based detection of unknown viruses	
16.	Updates to the scan engines should be automated and should not require manual intervention	
17.	All binaries from the vendor that are downloaded and distributed must be signed and the signature verified during runtime for enhanced security	
18.	Updates should not cause queuing or rejection of email	
19.	Updates should be capable of being rolled back in case required	
20.	Should support content filtering based on sender or domain filtering	
21.	Should provide content filtering for message body and subject line, blocking messages that contain keywords for inappropriate content	

S.No.	Specification	Compliance (Y/N)
22.	File filtering should be supported by the proposed solution; file filtering should be based on true file type.	
23.	Common solution for anti-spyware and anti-virus infections; and anti-virus and antispyware solution should have a common web based management console.	
24.	Should support various types of reporting formats such as CSV, HTML and text files	

13.7.14. Backup Software

S.No	Specifications	Compliance (Y/N)
1	The proposed backup solution should be available on various OS platforms such as Windows/Linux platforms and be capable of supporting SAN/LAN based backup / restore from various platforms including 32 & 64 bit windows/linx/unix	
2	The proposed backup solution shall support industry leading clustering solution	
3	User Interface	
	The proposed backup solution shall have same GUI across heterogeneous platform to ensure easy administration.	
	The proposed backup solution software has inbuilt Java / Web based GUI for centralized	
	management of backup domain.	
	The proposed backup solution must support integration of backup and restore with hardware cloning and snapshot features into the GUI, eliminating the traditional need to write user scripts	
	High Availability Features	
	The proposed backup solution should allow creating tape clone facility after the backup process.	
4	Licensing	
	The proposed backup solution shall be configured with required number of license for both SAN & LAN based backup	
	The proposed backup solution must not require separate licensing when upgrading from a lower end server to higher end server	
5	Streaming and Multiplexing	
	The proposed backup solution supports the capability to write up to 32 data streams to a single tape device or multiple tape devices in parallel from multiple clients to leverage the throughput of the drives using multiplexing technology.	
	The proposed backup solution support de- multiplexing of data cartridge to another set of cartridge for selective set of data for faster restores operation to client/servers.	
6	Media Management	
	The proposed backup solution has in-built media management and supports cross platform device and media sharing in SAN environment. It provides a centralized scratched pool thus ensuring backups never fail for media.	
	The proposed backup solution has in-built frequency and calendar based scheduling system.	

S.No	Specifications	Compliance (Y/N)
7	Open File Support	
	The proposed backup software must support open file support for Windows and Novell Netware.	
8	Database Support	
	The proposed backup solution has certified "hot-online" backup solution for different type of databases such as Oracle, MS SQL, mySQL Sybase etc.	
9	Restore	
	The proposed backup solution must be able to rebuild the backup database/catalog from tapes in the event of catalog loss/corruption.	
	The proposed backup solution shall provide granularity of single file restore.	
	The proposed backup solution must support single mailbox restore for Mail servers.	
	The backup software should support object level restore.	
10	Other Features	
	The proposed backup solution must support full automated transfer of disk backup images to tape on a scheduled basis.	
	The proposed backup solution shall also support disk based virtual full backup approach.	
	The proposed backup solution shall be able to copy data across firewall.	
	The proposed backup solution shall support automatic skipping of backup during holidays.	
	The proposed backup solution must support at least AES 256-bit encryption capabilities.	
	The internal backup catalogue database should not have a big foot print.	
	The backup software should support object based restore	
	The backup software should support instant recovery Industry leading database solutions like Exchange , SQL and Oracle databases etc.	

13.7.15. Archival Software

S. No	Specifications	Compliance (Y/N)
1	The software shall support defined policies that are based on a variety of standard file attributes such as age of file / last access time.	
2	The software shall set high and low watermark levels for purging data from high performance storage based upon a percentage of disk space in use.	
3	The software shall keep active data on host arrays while inactive or compliance data is automatically moved to disk or tape.	
4	The software shall support truncated stub files to point to migrated data, enabling seamless file access regardless of location of the data.	
5	Shall enable back-ups at disk speed, while dramatically decreasing recovery times.	
6	Shall offer a single logical view of both active and inactive data regardless of where it is physically located.	
7	Shall eliminate repeated backups of the same archived data.	
8	OS support: Microsoft® Windows Server 2003, Enterprise Edition / Red Hat® Enterprise Linux 5 & 4 AP / SUSE® Linux Enterprise Server 9 / Unix / Solaris / HP Unix / IBM AIX	
9	Metadata servers shall be offered in cluster, Min 2 Node cluster shall be offered based on Industry Standard Servers with 2 x Dual Core Intel CPU , Min 8 GB of RAM , 2 x DC HBAs (4 Gbps) , 4 x NIC Ports on each node or equivalent.	

13.7.16. 48 Port Access/Application Switch

S.No.	Specifications	Compliance (Y/N)
1.	Minimum 48 ports of 10/100/1000 base-T and 4 SFP uplink ports	
2.	1 U Rack mountable	
3.	55 Gbps or higher Backplane capacity and minimum 40 Mbps of forwarding rate	
4.	Should have Non-blocking wired rate architecture	
5.	All interfaces should provide wirespeed forwarding for both Fiber and copper modules	
6.	Support for at least 1000 VLANs & 12k MAC address	
7.	It should support IGMP snooping v1 & v2	
8.	It should support static IP routing and RIP	
9.	Should be upgradable to OSPF and PIM in future	
10.	Switch should support 8 hardware queues per port	
11.	Dynamic Host Configuration Protocol (DHCP) snooping	
12.	Switch should support LLDP and LLDP-MED capabilities	
13.	Should support IP source guard &DAI	
14.	Should support Secure Shell (SSH) Protocol and Simple Network Management Protocol Version 3 (SNMPv3) to provide network security by encrypting administrator traffic during Telnet and SNMP sessions	
15.	Switch needs to have console port for administration & management	
16.	Management using CLI, GUI using Web interface should be supported	
17.	FTP/TFTP for upgrading the operating System	
18.	IEEE 802.1x support	
19.	IEEE 802.1D Spanning-Tree Protocol	
20.	IEEE 802.1p class-of-service (CoS) prioritization	
21.	IEEE 802.1Q VLAN	
22.	IEEE 802.3 10BASE-T specification, IEEE 802.3u 100BASE-TX specification	
23.	Device should be CCC certified	
24.	The device should be minimum EAL 2+ Certified	
25.	The Switch should also support:	
26.	*Should support rate limiting *Should support Strict priority queuing *should support port based ACL	

13.7.17. SAN Storage

S.No.	Item	Specifications	Compliance (Y/N)
1.	Operating System & Clustering Support	The storage array should support industry-leading Operating System platforms including: Windows Server 2008, Windows Server 2012, Vmware, Citrix, Sun Solaris and Linux.	
2.	Form Factor & Solution Compatibility	The storage array must be SAN/NAS/DAS compatible	
3.	Capacity & Scalability	1. The Storage Array shall be offered with: A) 21TB usable capacity under RAID 5 using 300GB 10K RPM HDD or Higher. 2. Storage shall be scalable to minimum of 400 TB using 900GB drives or Higher	
4.	Cache (Controller and System)	1. Offered Storage Array Controllers shall be configured with a Minimum controller cache of 8GB. 2. Cache shall be dynamically managed for both Read and Write operations.	
5.	Architecture & Processing Power	Controllers shall be true active-active so that a single logical unit can be shared across all offered controllers in symmetrical fashion, while supporting all the major functionalities like shrink Provisioning, Data Tiering etc.	
6.	No Single point of Failure	Offered Storage Array shall be configured in a No Single Point of configuration including Array Controller card, Cache memory, FAN, Power supply etc.	
7.	Disk Drive Support	Offered Storage Array shall support 6Gbps dual-ported 300 / / 600 / 900 /1200GB Enterprise SAS hard drives.	
8.	Raid Support & Virtualization	1. Offered Storage Subsystem shall support Raid 0, 1 , 1+0, 5 2. Offered storage array shall have native virtualization support so that Raid 1. Raid 5, Raid 1+0, can be carved out from a logical space instead of dedicating separate physical disks for each application. 3. In case vendor doesn't have above functionality, then 20%	

S.No.	Item	Specifications	Compliance (Y/N)
		additional raw capacity shall be provided for each type of disk to balance out the capacity utilization (This will be in Addition to the 'Volume Sparing Capacity' provided for.	
9.	Data Protection	In case of Power failure, Storage array shall have de-stage feature to avoid any data loss, for a minimum of 96 hours.	
10.	Host Ports,	1. Offered Storage shall have minimum of 8 host ports for connectivity to servers running at 8Gbps speed.	
11.	Volume(Capacity) Sparing / Global Hot Spare	The System should be configured with at least 20% of Spares capacity in each category of RAW Capacity of drives configured. In case of hard disk failure, the system shall be able to do dynamic / online reallocation to spare disk automatically disk including remanufacture functions without manual intervention.	
12.	Performance and Quality of Service	1. Shall have capability to use more than 40 drives per array group or raid group for better performance. 2. Storage shall be provided with Performance Management Software. 3. Offered storage array shall support quality of service for critical applications so that appropriate and required response time can be defined for application logical units at storage. 4. Offered Storage/Solution proposed shall have published benchmark with more than 50,000 IOPS at less than 5ms response time.	
13.	Maintenance	Offered storage shall support online non-disruptive firmware upgrade for both Controller and disk drives.	
14.	Storage Array Configuration & Management Software	1. Vendor shall provide Storage Array configuration and Management software. 2. Software shall be able to manage more than one array of same family.	
15.	Storage Tiering	1. Offered storage shall support dynamic migration of Volume from one Raid set to another set while keeping the application online.	

S.No.	Item	Specifications	Compliance (Y/N)
16.	Remote Replication	1. The storage array should support hardware based data replication at the array controller level across all models of the offered family.	

13.7.18. Enterprise Management System (EMS)

S.No.	Specifications	Compliance (Y/N)
1.	The Solution shall provide future scalability of the whole system without major architectural changes.	
2.	Solution shall support Web Interface	
3.	Solution shall be open, distributed, scalable, and multi-platform and open to third party integration	
4.	All the proposed EMS solution should be from a single vendor to allow proper integration and information exchange between various EMS Modules	
5.	The Configuration Management Data Base (CMDB) should further have out of the box integrations with all the other proposed components.	
6.	Single integrated dash board to provide line of business views and drill down capabilities to navigate technical operators right from services to last infrastructure components	
7.	Solution shall provide manager of managers and capable of receiving events/alerts from multiple monitoring systems including system, network, storage, hardware, and application. System should be the single pane of glass for enterprise monitoring	
8.	Solution must be able to do runtime service modeling (RTSM) of all business critical production services & use Run-Time Service Model for efficient cross domain topology based event correlation.	
9.	The solution should utilize a Near Real Time Data Repository as its underlying database that is automatically populated by various discovery components of the monitoring solution. This repository should allow for a layered topology view of all the services across the enterprise, including dynamic infrastructures such as virtualization and cloud. This repository should also be able to federate with other repositories (CMDBs) i.e. third party CMDB	
10.	The solution should support mobility devices (ex. iPhone) to allow for role based views that can be accessed while away from the office.	
11.	The application should provide the ability to suppress duplicate messages and messages related to a "message storm". This suppression should be configurable to occur at the managed node and/or the management server.	
12.	Ability to be kicked off in a self-healing or automatic mode from monitoring alerts initiated from systems, among others, HP Openview, HP SiteScope, IBM Tivoli TEC, CA Unicenter, BMC Patrol, Microsoft Operations Manager	
13.	Should create automated IT process workflows. User should be given options to execute workflows in one of three modes:	

S.No.	Specifications	Compliance (Y/N)
	automated, visually guided or operator initiated, and prescheduled	
14.	The solution must provide a user with read only access privileges on all flows to ensure the security, reliability and integrity of the system and Should support detailed audit trails of the workflow, including detailed operations and outcomes of each task	
15.	Must provide a way to automatically generate documentation for IT process workflows	
16.	Network Fault and configuration Management	
17.	The solution should allow for Spiral discovery to be run on a continuous basis which tracks dynamic changes near real-time; in order to keep the topology always up to date. This discovery should run at a low overhead, incrementally discovering devices and interfaces.	
18.	The NMS must allow immediately determining the impact of a component failure and thus helping in prioritizing problem-solving efforts.	
19.	The NMS should provide very powerful event correlation engine and thus must filter, correlate & process, the events that are created daily from network devices. It should assist in root cause determination and help prevent flooding of non-relevant console messages	
20.	Polling intervals should be configurable on a need basis through a GUI tool, to ensure that key systems are monitored as frequently as necessary.	
21.	The topology of the entire Network should be available in a single map along with a Network state poller with aggressive/customizable polling intervals	
22.	The NMS application should provide a Unified Fault, Availability and Performance function from a single station only to reduce network and device loads with unified fault & performance polling.	
23.	The NMS performance system must provide out-of-the-box and highly customizable reporting across the network domain.	
24.	The Network performance operator console should provide operators with seamless transitions from fault data to performance reports and back. For example - select a node in NMS fault management system and cross launch it for historical and near real time data.	
25.	Should have MIB browsing, MIB loading, and MIB expression collection features.	
26.	NMS should be cloud ready, should have dynamic Root Cause Analysis capability	
27.	NMS should have Global Management capability, where in it can work in distributed environment.	

S.No.	Specifications	Compliance (Y/N)
28.	NMS should support application based failover over the WAN.	
29.	NMS should have support for SNMPv3 & IPv6, including dual-stack IPv4 & IPv6 to provide flexibility in protocol strategy and implementation.	
30.	It should be able to correlate multiple occurrences of a specific fault on a device within a specified time frame to enable detection of chronic problems. At any given point in time there may not exist a fault for a chronic issue, but we need to know that the condition continues to happen. For example: Circuit down 20 times in last 24 hour, bandwidth thresholds exceeded 30 times in last month, etc.	
31.	It should support discovery of virtual switches and contexts. Virtual switches and virtual contexts, like Cisco FSWM and Cisco ACE contexts, should be discoverable from their physical hosted system, especially when they are added and removed, for full network visibility.	
32.	The system should support a variety of discovery protocols. The system should take advantage of available information to aid in discovery of the network. Protocols should include ARP, DNS, SNMP, BGP, EIGRP, OSPF, CDP (Cisco), EDP (Extreme), NDP (SONMP-Nortel), FDP (Foundry), EnDP (Enterasys), and LLDP (link-level discovery protocol).	
33.	Support for discovering and monitoring router redundancy groups using HSRP (Hot Standby Router Protocol) & VRRP (Virtual Router Redundancy Protocol) & recognizing situations that can result in multi-path conditions.	
34.	Support for port aggregation protocols like PAGP (Port Aggregation Protocol), MLT (Multi-Link Trunking), and SMLT (Split MLT), including visual map-based views & automatic impact assessment based on the relationships between physical and virtual links.	
35.	Should be able to generate a graphical representation of your network. Identify which devices are inactive or out of compliance. Use filters to immediately view isolated specific network segments. Capture a snapshot of the current state of the network, including topology and virtual LAN (VLAN) information. Identify the hosts connected to specific switches or interfaces by MAC address.	
36.	In real time, detect configuration and asset information changes made across a multi-vendor device network, regardless of how each change is made and also support configuration deployment/rollback and configuration templates	
37.	Manage network compliance by comparing devices to defined, best-practice standards. Speed audit processes with out-of-the-box network compliance reports for ITIL, SOX, HIPAA, PCI	

S.No.	Specifications	Compliance (Y/N)
	DSS, and more. Validate device operating states in real time to stay in compliance.	
38.	Configure granular, customizable user roles to control permissions on device views, device actions, and system actions. Support common authentication systems, such as TACACS+, Radius, SecurID, Active Directory and LDAP.	
39.	The system must support heavily NAT environment and environments where network devices may have the same IP address.	
40.	The system must provide an automated method to configure devices for real-time change detection via syslog (either direct syslog or syslog via a relay).	
41.	Network Performance Management:	
42.	Should establish the status of network devices and interfaces with unified status calculation and visualization of network fault & performance data.	
43.	Should enable efficient workflows using contextual navigation between reports and rich interactive report configuration capabilities	
44.	Network Performance reporting tool must provide the following capabilities:	
45.	Data collection and set threshold of network device ports (any that support MIB2 including virtual interfaces): - Bytes In - Bytes Out - Discards - Errors - Network Delay · Data collection and set threshold of network devices: - CPU - Memory - Buffers - Component statistics · A variety of reports summarizing the data including: - Home page summary - Calendar - Heat chart - Headline - Dashboard - Managed inventory report - Top ten - Most changed - Data explorer	
46.	Should honors network fault management tools' secure grouping and multi-tenancy settings	

S.No.	Specifications	Compliance (Y/N)
	- Secure reports by group - Secure reports by tenant · Should support following single server scalability - Single station scalability up to 500,000 performance polled interfaces - Store as-polled data for up to 26 months · Should be able to schedule key reports for automated delivery - Distribute reports by email in HTML, Excel or pdf formats.	
47.	Systems Management	
48.	Should offer service driven operations management of the IT environment to manage distributed, heterogeneous systems - Windows, UNIX & LINUX from a single management station.	
49.	Should provide a centralized point of control with out-of-the-box policy-based management intelligence for easy deployment for the servers, operating systems, applications and services for correlating and managing all the IT infrastructure components of a business service	
50.	Should support Virtual platforms - Vmware and Microsoft Virtual Server, Citrix and provide capability to manage both Microsoft .NET and J2EE applications from the same platform	
51.	Should provide simplified service / process monitoring and have the capability for distributed management functions and based on time zones have the capability of follow the sun model	
52.	Should provide in built correlation to reduce the number of messages presented to the operators and to determine the root cause.	
53.	The system must be agent based for managing the nodes and have the capability of storing events / data locally if communication to the management server is not possible due to some problem. This capability will help to avoid losing critical events.	
54.	EMS must support the backup server concept, which enables switching management responsibility from one management center to another in case of system failure. This eliminates single points of failure in the management system	
55.	The System Should have automated service discovery, policy deployment and actions to enable busy IT personnel to focus on more strategic initiatives and manage business-critical application services from the end-user perspective, and to be immediately aware of the business impact of lower level component failures or performance degradations	
56.	Complex dependencies between managed elements must be captured, allowing IT management staff to interpret lower level data in terms of its importance to the higher-level service.	
57.	An advanced real-time status propagation mechanism in the Services view must allow IT management staff to immediately	

S.No.	Specifications	Compliance (Y/N)
	determine the impact of a component failure on the overall application service. Problem-solving efforts can then be prioritized.	
58.	Alarms with meaningful message text, instruction text, operator / automatic actions / linked graphs, duplicate message suppression	
59.	Should be configurable to suppress events at the agent or managed node level it-self and be configurable to suppress events for key systems/devices that are down for routine maintenance or planned outage.	
60.	The system should allow for enriching of messages with incremental information and should allow for customization of message attributes.	
61.	There should be a single agent on the managed node that provides the system performance data, and for event management it should be able to prioritize events, do correlation & duplicate suppression ability to buffer alarms and provide automatic actions with capability to add necessary annotations	
62.	The solution should provide a single pane of glass for IT availability, event and performance management, providing a consolidated view across all system, network and application events.	
63.	The system must support multiple built in discovery mechanisms for eg: Active Directory, Windows Browser, DNS with capability to discover and services discovery	
64.	The Discovered services should be displayed in service dependency maps automatically for consolidating different IT management views into a single workbench, which ensures the health of end-to-end IT services across IT infrastructure and domains	
65.	Should provide console and a web browser interface that can be accessed from anywhere using industry-standard web browsers.	
66.	Each operator should be provided with user roles that should include operational service views enabling operators to quickly determine impact and root cause associated with events.	
67.	Highly scalable, and can manage in excess of 1000 managed nodes from a single server with ability push deployment of agents and monitoring policies to a variety of heterogeneous platforms enabling fast and controlled roll out and maintenance	
68.	The agents should be extensible and customizable allowing incorporation of any required monitoring source not included in the extensive out-of-the-box monitoring policies. With Capabilities to collect and analyze performance data from the operating system and installed applications and use historical patterns to establish performance baselines.	

S.No.	Specifications	Compliance (Y/N)
69.	Agents on the managed node should be autonomous and can undertake automated corrective actions in isolation from the Management server. This provides management by exception for only forwarding actionable events to the Management server.	
70.	The system must include very powerful event management and correlation services technology, providing correlation capabilities on the agents in addition to the central manager station to filter, correlate, process, and respond to the thousands of events that are created daily from systems, databases, and applications.	
71.	In a distributed environment, a management solution needs to be security aware and must not create any additional exposure through its operation. Providing secure communication mechanisms for managing business-critical and sensitive IT environments.	
72.	There should be secured communication between Management server and Managed nodes avoiding the need to open unsecure firewall ports.	
73.	The system must provide a Manager-to-manager communication allowing management hierarchies to be established, such as several regional management centers linked to one central location, and to forward or escalate alerts depending on escalation rules. Escalation and forwarding must be fully automatic or handled through manual selection by Customer management staff.	
74.	The system must support the backup server concept, which enables switching management responsibility from one management center to another in case of system failure. This eliminates single points of failure in the management system.	
75.	The system may have its native database and capability to use external database like MS-SQL, Oracle etc.	
76.	The system should integrate with Helpdesk / Service desk tool for automated incident logging and also notify alerts or events via e-mail or SMS.	
77.	The system should have management polices to monitor and manage WMI, Performance, SNMP, Application, Log files and Event logs and support automatic action in various forms like running a script to be taken on alerts from managed nodes	
78.	The system should have context-based analysis and forecasting based on performance data with automated policy deployment with detailed, intelligent monitoring of performance and availability data collection	
79.	Centralized view for Agent-based and agent-less monitoring managed from one central console	
80.	The solution must provide the ability to extend the Data Model by associating custom data fields with objects such as devices, interfaces, etc.	

S.No.	Specifications	Compliance (Y/N)
81.	Application should support an architecture where multiple management servers are configured identically, and share a virtual LAN interface. Messages from managed nodes are sent to this virtual interface instead of a physical server. This virtual interface may be switched manually or programmatically for server maintenance purposes or if the server is otherwise temporarily inaccessible.	
82.	Application should support architecture that is consistent with standard High Availability and Disaster Recovery scenarios. In that HA provides redundancy to protect from local management server outages, and DR provides a method to re-locate the management server to a new site in the event of severe weather, fire, earthquake, or other type of situation where the entire original site is rendered un-available.	
83.	Application can be the manager of managers and capable of receiving events/alerts from multiple monitoring systems including system, network, storage, hardware, and application. System should be the single pane of glass for enterprise monitoring	
84.	Application should be able to communicate through a firewall out-of-the-box. Application should be able to deliver out-bound only communication to the managed system. The security should be standards based, http, sol, and soap.	
85.	Application should be capable of monitoring applications that are clustered. The monitoring should understand cluster packages and be aware of which host is running a package at any given time	
86.	For each node, the management server maintains a policy inventory, which enables to see which policies you have already deployed to each node. This helps to decide when to update, redeploy, or remove policies. One should also be able to disable policies on individual nodes temporarily, and enable them again later.	
87.	Application should be able to guaranteed message delivery by buffering alerts/events if communication to the management server is unavailable, and send the alerts once communication is re-established	
88.	Application should be capable of executing an automatic action based on any one of the monitors be triggered. An automatic action can be any simple script for instance restarting a service or process, deleting temporary files etc.	
89.	Application should be capable of executing an operator initiated action based on any one of the monitors be triggered. An operator initiated action can be any simple script for instance restarting a service or process, deleting temporary files etc.	

S.No.	Specifications	Compliance (Y/N)
90.	Bi-directional communication with ticketing systems. Ticketing System is important for implement ITIL another best practice processes such as Incident Management. It is important to have 2 way communication between these systems to keep the alerting mechanism in synch with the ticketing system	
91.	Application should have the capability to allow operators to take ownership, assign, and adding comments to events.	
92.	Policies should be auto-deployed based on information discovered about an individual system. For instance, if it is discovered that the system is running Exchange, then automatically deploy policies to monitor Exchange.	
93.	Alerting on threshold breaches and ability to combine metrics for threshold E.g. threshold if CPU > 90% and Run Queue > 20, etc.	
94.	The reporting solution should provide ad hoc data reporting as well scheduled reports that are available via a web site, or delivered via email.	
95.	If reports do not fit the display, the application must have the ability to scroll both horizontally and vertically. Drill down capability from a graph is also very desirable.	
96.	In distributed applications, it is important to view the metrics of client-server relationships holistically, and so the application needs the ability to easily bring performance data into the same graph from multiple data sources.	
97.	Capacity planning requires the ability to predict future resource demands. To that end, the reporting solution needs to have robust statistical and mathematical functions for forecasting and trending collected data.	
98.	Application should be able to export any graph or matrix presentation of data to XLS, CSV formatted files.	
99.	Application should provide a wizard or other GUI to facilitate the creation of customized graph templates. It should provide a list of metrics available for a given system type and allow for multiple metric selection. This template can then be used to create a graph for any system with the same attributes.	
100.	Application should provide a wizard or other GUI to facilitate the creation of customized graph. It should provide a list of metrics available for the selected system type and allow for multiple metric selection.	
101.	Application should be able to manipulate the current graph in the following ways: -Fetch more data before and after a currently presented graph -Zoom in and Zoom Out -Drill down to the actual data points -Scrolling through graphs on x and y -Instance prompting for multi instance class metrics -Ability to remove one of more of the selected metrics to focus	

S.No.	Specifications	Compliance (Y/N)
	the view	
102.	Ability to launch in-context to performance graphs or reports.	
103.	Collection of performance data should average no more than 3%-5% system overhead	
104.	Ability to collect metrics per process to facilitate troubleshooting of system resource overhead on a process basis.	
105.	The Event Correlation Engine must be based on the discovered information and relationships present in a central Service Dependency Database that contains infrastructure elements from all IT Domains, namely network, storage, hosts, applications and business services.	
106.	The Correlation Engine shall use detailed, comprehensive, and automatically updated discovery and relationship information to analyze alerts and events and ultimately determine the event that is most likely the cause of an incident.	
107.	Correlation rules must be based on configuration item (CI) types, not on components themselves, so that they can be automatically applied to each new CI as the Service Dependency Database dynamically discovers and captures the new CI and its interrelationships. In short, there should not be any changes to the rules when topology changes.	
108.	The system shall allow administrators to create new Event Correlation rules by simply selecting events in the browser and indicating which event is the cause and which are the symptoms.	
109.	The system should automatically validate Configuration Items in the selected events against the Service Topology Dependency Database to ensure they are connected and hence such a correlation rule can be created.	
110.	The system should support concepts of Accelerator Packs. These accelerator packs should provide pre-configured correlation rules, tools, and KPIs for specific managed domains such as J2EE, Database, System Infrastructure and Microsoft Infrastructure	
111.	When many a combination of many events occurs in the monitored environment, the system must be able to automatically categorize them into causes and symptoms. The system needs to provide a single interface to view multiple layers of cause and symptoms.	
112.	The system should provide automatic chaining of Correlation Rules, meaning if I have a rule relating a database problem to a filesystem problem, and another rule that relates a filesystem problem to a storage problem, the system should be to link these rules together and link the database problem to the storage problem during execution time	
113.	The Event Management system must share the same Data Model as the Service Dependency Database, so that the events in the	

S.No.	Specifications	Compliance (Y/N)
	Management Console can be seamlessly mapped to related configuration items (CIs) in the Service Dependency Database.	
114.	The Event Management system should be able to filter events that mapped to a particular CI, a host of CI or entire tree of CI representing a Service Model in the Service Dependency Database. For e.g, show me all the events relating to any systems, applications, networks and components supporting the online banking Service.	
115.	The system must allow modification and enhancement events during event processing. An event processing interface must be provided to enable event processing scripts to be integrated into the event processing pipeline and allow operations to enrich events programmatically. For e.g., to provide additional information by querying asset databases during event processing time and adding additional hints from the query to facilitate event correlation.	

13.7.19. SAN Switch

S.No.	Specifications	Compliance (Y/N)
1.	SAN switch should be of director class with minimum 32 ports populated and active. Should have non-blocking architecture and scalable to 192 ports in a single domain with 8Gbps full duplex with no over subscription with local switching. Two nos. of Fibre channel switch should be provided in high availability mode. Bidder needs to populate the required ports as per the sizing and design	
2.	If a new switch is provided, it has to be interoperable with the existing switch with no performance impact to existing fabric	
3.	Additional SFPs and licenses to be added non-disruptively	
4.	Port SFPs to be added as per recommendation considering the number of servers, storage ports and tape library	
5.	Should support at least 8 Gbps FC ports and also support scaling up to 16 Gbps FC Ports in the same chassis.	
6.	SAN Switch should have equal performance from any port to any port on the director for consistent performance	
7.	All the ports should operate at minimum 8 Gbps and auto-negotiate to 4Gbps/2Gbps and should support for 16Gbps in future.	
8.	All the components should be hot swappable field replaceable units allowing non-disruptive maintenance	
9.	There should not be any single point of failure in the switch. The SAN switch should provide Enterprise-class availability features such as Dual-redundant control processors, redundant hot-swappable power and cooling subsystems. Power supply and fan assembly should have different FRU.	
10.	Non-disruptive Microcode/ firmware Upgrades and hot code activation.	
11.	It should be possible to isolate the high bandwidth data flows traffic to specific trunks by simply using Zoning.	
12.	Switch should provide advanced zoning capabilities and allow health and performance monitoring capabilities. Support for web-based management and should also support CLI.	
13.	Should have proactive fault detection and alerting capability to avoid any hot-spots in the fabric.	
14.	The switch should be rack mountable.	
15.	Provide Adaptive Networking services such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low priority QOS zones to expedite high-priority traffic.	
16.	It shall be possible to configure the switches with alerts based on threshold values for temperature, fan status, Power supply status, port status.	
17.	Switch shall support diagnostics features such as port mirroring, Syslog, Online system health, Port-level statistics etc.	

13.7.20. Virtual Tape Library

S.No.	Specifications	Compliance (Y/N)
1.	Offered Virtual tape Library shall be of modular design to allow configuration, addition of capacity. Tape library shall be configured with minimum 50 number of data cartridges,1 bar code label pack, cleaning cartridge etc.	
2.	Offered Virtual Disk library shall be offered with minimum of 20 TB of usable space scalable to more than 100 TB of usable space in Raid 5/6	
3.	Each front-end head / Node of Virtual Tape Library shall have the ability to configure at least 16 tape Libraries, at least 100 or more tape drives & at-least 2000 Cartridge slots.	
4.	Offered Virtual Tape library Solution shall have capability to deliver selective restore from disk Library itself.	
5.	The Virtual Tape Library should be compatible with the proposed Storage Solution infrastructure including the SAN Storage, SAN Switch etc.	
6.	The Virtual Tape Library should be compatible with all the leading backup software products.	
7.	The Virtual Tape Library should have the ability to flexibly emulate the most commonly used tape drive/ tape formats like LTO-Gen3, LTO-Gen4, LTO-Gen5 etc.	
8.	Each Offered Virtual tape Library head / node shall have minimum of 2 x 4Gbps fiber Channel connections to SAN switches.	
9.	Fault tolerance in the offered Virtual tape library shall be achieved by redundancy technology like RAID 5/6.	
10.	Offered Virtual Tape Library shall offer inbuilt Hardware Data compression, without performance degradation,	

13.7.21. Server Load Balancer

S.No.	Specifications	Compliance (Y/N)
1.	The appliance should be appliance based solution with high performance built hardware.	
2.	The appliance should have minimum 6 GB RAM for support for multiple load balancing functions	
3.	The appliance should have minimum 8 triple speed 10/100/1000 Mbps gigabit copper ports	
4.	The appliance should have minimum 3 Gbps of throughput from day one and scalable to 4 Gbps	
5.	Should have minimum 5 lakh concurrent connection scalable to 15 lakh concurrent connections.	
6.	The appliance should have a minimum 40% scalability after the implementation	
7.	The appliance should provide full IPv4 & IPv6 support from day 1	
8.	The appliance should support redundancy as a hot standby. Every instance of the appliance supplied should have redundancy to ensure no single point of failure.	
9.	Should have minimum 1 Gbps compression for web based applications	
10.	Load balancing Features	
11.	The appliance should support layer 2 to layer 7 load balancing	
12.	The appliance should support server load balancing algorithms i.e. round robin, weighted round robin, least connection, Persistent IP, Hash IP, Hash Cookie, consistent hash IP, shortest response, proximity, SNMP, SIP session ID, hash header etc.	
13.	Should support one arm, reverse and transparent proxy mode deployment scenarios and should support nested layer7 and layer4 policies.	
14.	Should maintain server persistency based on source ip and destination ip, http header, curl, cookie and SSL ID.	
15.	The appliance should support multi-port, scripted and custom health check with content verification	
16.	Should provide application & server health checks for well-known protocols i.e. ARP, ICMP, TCP, DNS, RADIUS, HTTP/HTTPS,RTSP etc.	
17.	The appliance should have and/or relationship to check various dependencies for the application delivery	
18.	The appliance should support layer4 and layer 7 load balancing for HTTP/HTTPS,FTP/FTPS, SIP, RTSP , RDP, TCP, TCPS and UDP protocols	
19.	Clustering and failover	
20.	Should provide comprehensive and reliable support for high availability based on	
21.	Per Virtual IP based Active-active & active standby unit redundancy mode.	

S.No.	Specifications	Compliance (Y/N)
22.	Stateful session failover with Connection mirroring support	
23.	Appliance should not have any limitations for connection mirroring	
24.	Should support USB based FFO link to synchronize configuration at boot time of HA	
25.	Support for multiple communication links for real time configuration synchronizations including HA group, gateway health check, decision rules, SSF sessions etc. and heartbeat information	
26.	Should have support for secondary communication link for backup purpose	
27.	Should support floating IP address and group for stateful failover support. Appliance should have support for minimum 256 floating IP address for a floating group	
28.	Should support built in failover decision conditions including unit failover, group failover and reboot	
29.	Should also have option to define customized rules for gateway health check - the administrator should able to define a rule to inspect the status of the link between the unit and a gateway	
30.	Configuration synchronization at boot time and during run time to keep consistence configuration on both units.	
31.	The appliance should have software based site selection feature to provide global load balancing features on same appliance	
32.	Should support global load balancing algorithms like global round robin (grr), VIP based weighted global round robin, global connection overflow, global least connections, IP overflow, Proximity etc.,	
33.	SSL Features	
34.	Should provide Secure online application delivery using hardware-based high performance SSL acceleration with minimum 1 Gbps of SSL throughput scalable to 1.5 Gbps and minimum 7,500 ssl TPS scalable to 15,000	
35.	The appliance should support Certificate format as "OpenSSL/Apache, *.PEM", "MS IIS, *.PFX", and "Netscape, *.DB".	
36.	The appliance should have additional hardware card to perform the SSL offloading / acceleration for 1024 and 2048 bit certificates.	
37.	The appliance should support use of password protect Certificate/Private Key backup/restore to/from local disk or remote TFTP server, and through WebUI	
38.	The appliance should support Self generates CSR (Certificate Signing Request), self-signed Certificate and private key for specified host.	
39.	The appliance should support customization for SSL Error pages.	
40.	The appliance should support HTTP to HTTPS location header rewrite for enhanced application delivery support	
41.	The appliance should have end to end ssl support to act as a SSL Server and/or as SSL Client	
42.	Should support client certificate verification, certificate bases access control, CRL's (HTTP, FTP ,LDAP) and OSCP protocol	

S.No.	Specifications	Compliance (Y/N)
43.	Security and Application Acceleration	
44.	Should provide performance optimization using TCP connection multiplexing, TCP buffering and IEEE 802.3ad link aggregation.	
45.	Should support TCP optimization options including windows scaling, timestamp & Selective Acknowledgement for enhanced TCP transmission speed.	
46.	TCP optimization option configuration should be defined on per virtual service basis not globally.	
47.	Appliance should provide real time Dynamic Web Content Compression to reduce server load.	
48.	Should provide selective compression for Text, HTML, XML, DOC, Java Scripts, CSS, PDF, PPT, and XLS Mime types.	
49.	Should provide Advanced high performance memory/packet based Web cache; fully integrated with HTTP/HTTPS	
50.	Should provide support for customized cache rules including max object size, TTL objects, refresh time interval etc.	
51.	Should provide detailed cache access statistics based on IP or http hosts	
52.	Should support cache refresh with CLI, XML-RPC input commands and "PURGE" request	
53.	The appliance should support transparent, layer 7 proxy and triangular mode support	
54.	The appliance should support L7 rule based application firewall to protect the internal applications	
55.	Appliance should have security features like reverse proxy firewall, Syn-flood and dos attack protection features from the day of installation.	
56.	Appliance should provide secured communication channel with EMS for management	
57.	The appliance should have redundant power supply from day 1	

13.7.22. Database Encryption Appliance

S. No	Specifications	Compliance(Y/N)
1.	Should be an appliance based solution with minimum 10,000 TPS for encryption & decryption of data	
2.	Should support the following security algorithms 3DES, DES, AES, RSA (signatures and encryption), RC4, SHA-1, HMACSHA-1	
3.	Should support asymmetric key of size 512, 1024, 2048	
4.	Should support Symmetric key of size 128, 168, 192, 256	
5.	Should allow system administration with Secure Web-based GUI, secure shell (SSH), console	
6.	Should provide out of the box integration with market leading web & application platforms	
7.	Should support integration with various market leading databases but not limited to DB2, MS SQL, Oracle, my SQL, Postgres, etc	
8.	19" rack mountable with mounting accessories	
9.	Should provide column level encryption	
10.	Should have 24/7 tel/email OEM support infrastructure based out of India	
11.	Should Support delegated admin, "M of N"	

13.7.23. Disaster Management Software

S.No.	Specifications	Compliance (Y/N)
1.	The proposed solution should be in the form of software which is rated/mentioned in independent analyst reports from either Gartner or IDC.	
2.	The proposed solution must offer a workflow based management & monitoring capability for the real time monitoring of a DR solution parameters replication status and should provide alerts on any deviations	
3.	The proposed solution should provide a single dashboard to track DR Readiness status of all the applications under DR	
4.	The proposed solution should be capable of reporting important health parameters like disk space, password changes, file addition/deletion, etc. to ensure DR readiness and facilitate policy based actions for events with ability to cancel out polar events.	
5.	The proposed should have inbuilt ready to use library of recovery automation action for heterogeneous databases and replication environment. This must significantly reduce custom development of scripts and speedy deployment of DR solutions.	
6.	The proposed solution should be capable of doing pre-flight checks to ensure conditions are met to ensure a successful DR Drill	
7.	The proposed solution should facilitate workflows for bringing up the applications and all the components it depends on at DR while it is up at primary site without pausing/stopping the replication	
8.	The proposed solution should have granular, role based administration and should use existing Active Directory/LDAP for identity management without the need of its own, separate identity management database.	
9.	The proposed solution should be capable of generating reports and email/SMS alerts on RPO deviation, RTO deviation and DR Drills from a centralized location	
10.	10. The proposed solution should be able to manage hosts by either deploying agents or without deploying any agent and should seamlessly integrate with existing environment without the need to replace/change configuration including existing clusters.	
11.	The proposed solution must support all major platforms including Linux, Windows, Solaris, HPUX, and AIX with native high availability options. It must support both physical and virtual platforms.	
12.	The proposed solution should have file level replication for associated application servers and DB log replication which is supported on the commonly used OS platforms and has inbuilt bandwidth compression.	

13.7.24. Hardware Security module

S.No.	Specifications	Compliance (Y/N)
1.	Should have support for Windows, Linux, Solaris,HP-UX, Virtual: VMware, Hyper-V, Xen	
2.	TCP/IP Network based appliance	
3.	The HSM should support secure transport mode i.e. Temporary tamper state to insure security when HSM is being moved from one facility to another	
4.	Should comply to standards like FIPS 140-2 Level-3, CC EAL4+,ROHS,FCC part 15 Class B	
5.	Keys are always in Hardware and never stored in Software in any form	
6.	Compatibility: PKCS#11 , CAPI, OpenSSL, JCE/JCA	
7.	Full Suite B support Asymmetric: RSA (1024-8192), DSA (1024-3072), Diffie-Hellman, KCDSA, Elliptic Curve Cryptography (ECDSA, ECDH, ECIES) with named, user-defined and Brainpool curves Symmetric: AES, RC2, RC4, RC5, CAST, DES, Triple DES, ARIA, SEED Hash/Message Digest/HMAC: SHA-1, SHA-2 (224-512), SSL3-MD5-MAC, SSL3-SHA-1-MAC Random Number Generation: FIPS 140-2 approved DRBG (SP 800-90 CTR mode)	
8.	Published API for various above functionalities for integrating with the Application software	
9.	Remote PED Support for Authentication;Should have option for Remote and Local multifactor Authentication	
10.	Contents can be securely stored on backup device to simplify backup, cloning, and disaster recovery	
11.	Onboard key generation, Digital Signing & Verification process to be done inside the HSM only, for better performance and security	
12.	24/7 tel/email OEM support infrastructure based out of India	

13.7.25. VPN Concentrator

S.No.	Specifications	Compliance (Y/N)
1.	The solution should be a hardware based device with minimum 4 10/100/1000 Mbps copper ports and future scalability of 2 fibre port.	
2.	The hardware should capability for performing wire speed SSL VPN operations over 2048 and 4096 bits certificates	
3.	The appliance should provide access to web based applications including complex java scripts, flash based applications, java applet requiring socket connections and other advanced internet technologies without requiring any changes in the web application	
4.	The solution should have minimum 2000 concurrent ssl vpn tunnel with future scalability support	
5.	There shall not be any restriction on the number of web resources configured for each user and group	
6.	The solution should support minimum 50,000 local users configured on the appliance itself	
7.	Appliance should have high performing SSL operating Kernel to enable significant performance gains in large user base environments for processor-intensive ciphers such as 3DES and AES with minimum 400 Mbps encrypted traffic support	
8.	Connection between remote user and internal resource should be through a web connection of the application using SSL version 3.0 with 128 bit AES encryption	
9.	All Application configured in the application should be accessible by remote user through standard web browsers without the need to install any special software on remote PC on windows or Linux for Internet browser, Mozilla and Opera.	
10.	The solution should support a light weight java/window based applet/installation enables the access of resources via iOS 4.x and above, Android 2.x and above for remote access from mobile devices	
11.	Solution should ensure that all of the response packets from a remote server can be directed to the originating link from which the corresponding request packets are sent by a client.	
12.	The appliance should properly convert the relative and absolute URLs within a web resource to achieve the following 1. It should be possible to specify URL/IP as internal to web resource such that access to all IP/ URL should be redirected through SSL-VPN 2. There should be no broken links for content/image linked to the URL/IP specified as internal to web resource	
13.	Appliance should support granular configuration of access control/resource authorization based on IP, group, resources etc	
14.	The solution should support user accounts and their password management and should be possible using either local database of appliance or through integration with LDAP/AD/Radius existent in the organization	

S.No.	Specifications	Compliance (Y/N)
15.	Support for integration with strong authentication systems like two factor authentication PKI should be available	
16.	Multiple appliances could be connected in active-active mode to provide load sharing and high availability with additional sync cable for fast failover	
17.	Logging and auditing should be available for all actions/events. Remote logging facility should be available with role based admin access for various sub operations like log view operator, database management, virtual site manager and operator, super admin user	
18.	The solution should be ISO 9001:2008 certified and products with ICSA VPN certification	
19.	the solution should have these certifications: EC 60950-1, LU/CSA 60950-1, EN 60950-1, ICES-003, EN 55024, CISPR 22, AS/NZS 3548, FCC, 47FR part 15 Class A, VCCI-A, CSA, C/US, CE, UL	

13.8. Bank Guarantee Format

(FORM OF BANK GUARANTEE FOR PERFORMANCE SECURITY)

BANK GUARANTEE NO. _____ DATE: _____

This deed of performance guarantee made this …… (dd / mmm / yyyy) by (Name and address of the Bank) (herein referred to as the Bank) which expression shall unless repugnant to the context and meaning thereof includes its legal representatives, successors and assignees and the **M/S. TAMIL NADU CO-OPERATIVE MILK PRODUCERS' FEDERATION LIMITED** (hereinafter referred to as the **TCMPF Ltd.,**) which expression shall unless repugnant to the context and meaning thereof include its legal representative, successors and assignees.

Whereas, **TCMPF Ltd.,** has awarded a Contract bearing No. _ _ _ _ _ _ _ _ _ **dated _ _ _** on M/s. _____ (Name and address of the party) (Hereinafter referred to as the `System Integrator') for the supply of computer hardwares and peripherals and to design, develop, test, install, operate, maintain and manage Integrated Dairy Management System (IDMS). And whereas, the System Integrator has agreed to submit a performance guarantee in the form of a Bank Guarantee to the **TCMPF Ltd.,** in terms and conditions of Letter of intent/Notification of award No. …….. dated …….., which will be kept valid up to 48 calendar months from the date of Bank Guarantee. And whereas, the Bank and its duly constituted agent and officer has already read and understood the contract made between the **TCMPF Ltd.,** and the System Integrator.

In consideration of the **TCMPF Ltd.,** having agreed to award the contract, we _____ name of the Bank), do hereby guarantee, undertake, promise and agree to with the **TCMPF Ltd.**, its legal representatives, successors and assignees that the within named (name of the System Integrator) their legal representatives and assignees will faithfully perform and fulfill everything within the Bidding Document and the Contract on their part to be performed or fulfilled, at the time (time being the essence of the contract) and in the manner therein provided, do all obligations there under and we further undertake and guarantee to make payment to the **TCMPF Ltd.,** of Rs._____ (Rupees only) being the 10% of the contract value, in case the System Integrator, their legal representatives and assignees do not faithfully perform and fulfill everything within the Letter of intent/Notification of award on their part to be performed or fulfilled, at the time and in the manner therein provided and do not willfully and promptly do all obligations there under.

In case, the fails to perform or fulfill the Contract as per the terms and conditions agreed upon, the **TCMPF Ltd.,** is entitled to demand an amount equal to 10% of the Contract value from the System Integrator and the demand made by the **TCMPF Ltd.,** by itself will be conclusive evidence and proof that the System Integrator has failed to perform or fulfill his obligations and neither the System Integrator nor the Bank will be entitled to raise any dispute regarding the reasons for the failure of performance or fulfillment, on any ground.

We, (name of the Bank), do hereby undertake to an amount equal to 10% of the order value, being the amount due and payable under this guarantee without any demur, merely on a demand from the **TCMPF Ltd.,** stating that the amount claimed is due by way of non – performance of the contractual obligations as aforesaid by the System Integrator or by reason of the System Integrator's failure to perform the said contractual commitments, any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under

this guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees only) being the amount equal to 10% of the total contract value.

We, (name of the Bank), further, agree that the performance guarantee herein contained shall remain in full force and effect for a period upto _____ from the date of Bank guarantee and till the **TCMPF Ltd.,** certifies that the terms and conditions of the said contract have been fully and properly carried out by the said System Integrator and accordingly discharge the guarantee, unless a demand or claim under this guarantee is made on us in writing by the **TCMPF Ltd.,** on or before _____, we shall be discharged from all liabilities under this performance guarantee thereafter.

We, (name of the Bank), further agreed with the **TCMPF Ltd.,** that the **TCMPF Ltd.,** shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Bidding Document and the Contract to extend the time of performance by the said System Integrator from time to time or postpone for any time and any of the power exercisable by the **TCMPF Ltd.,** against the System Integrator and to forebear or enforce any of the terms and conditions relating to the said Bidding Document and the Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said System Integrator, or for any forbearance, act or omission on the part of the **TCMPF Ltd.,** to the said System Integrator by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

This guarantee shall be in addition to and without prejudice to any other securities or remedies which the **TCMPF Ltd.,** may have or hereafter possess in respect of the goods supplied/work executed or intended, to be supplied/executed and the **TCMPF Ltd.,** shall be under no obligation to marshal in favour of the Bank any such securities or funds or asset that the **TCMPF Ltd.,** may be entitled to be receiving or have a claim upon and the **TCMPF Ltd.,** at its absolute discretion may vary, exchange, renew, modify or refuse to complete to enforce or assign any security or instrument.

The Bank agrees that the amount hereby guaranteed shall be due and payable to the **TCMPF Ltd.,** on serving us with a notice, requiring the payment of the amount and such notice shall be deemed to have been served on the Bank either by actual delivery thereof to the Bank or by dispatch thereof to the Bank by Registered Post at the address of the Bank.

Any notice sent to the bank at its address by Registered Post acknowledged due as proof having delivered shall be deemed to have duly served on the Bank not with standing that the notice may not in fact have been delivered to the bank.

In order to give full effect to the provisions of this guarantee the Bank hereby waives all rights inconsistent with the above provisions and which the Bank might otherwise as a guarantor be entitled to claim and enforce.

We, _____, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the **TCMPF Ltd.,** in writing and the guarantee shall be a continuous and irrevocable guarantee up to a sum of Rs. _____ (Rupees only).

The Guarantee shall remain in force until _____ and a claim is performed against the bank within three months from the said date all rights of the Dairy under the guarantee shall cease and the Bank shall be released and discharged from all liabilities here under.

NOT WITH STANDING any thing contained herein:

i. Over liability under this guarantee shall not exceed Rs. _____
ii. This bank guarantee shall be valid up to _____ and
iii. We, (name of the Bank), are liable to pay the guarantee amount or any part thereof under this bank guarantee only and if **TCMPF Ltd.,** serve upon us (name of the Bank), a written claim or demand on or before _____

_____
(Signature with Seal)

Place:
Date:

Code No.

13.9. List of Supporting Documents/Files attached

The Bidders are advised to furnish the list of supporting documents/files attached

Table 1 – List of Documents/Files Attached

S.No	Name of File	Description of Content	Class No. Reference	Page No. Reference	Remarks

Tamil Nadu Cooperative Milk Producers' Federation Ltd. (TCMPF), Aavin Illam, Madhavaram Milk Colony, Chennai -51, Tamil Nadu

Tender Reference No. 3637/IDMS/2015

Request for Proposal (RFP)
For
Selection of System Integrator (SI) to Implement Integrated Dairy Management System (IDMS)

VOLUME III – Commercial Bid

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14. COMMERCIAL BID

14.1. General Instructions

1. All prices should be given in INDIAN Rupees and Paise only. All values in Paise should have two digits only.
2. Bidder should provide all prices as per the prescribed format given in this Volume of RFP. Bidder should not leave any field blank. In case the field is not applicable, Bidder must indicate "NIL" in all such fields.
3. All unit rates indicated in the schedules shall be exclusive of all taxes, levies, duties etc which shall be quoted separately.
4. It is mandatory to provide breakup of all Taxes, Duties and Levies wherever applicable and/or payable. This should be provided immediately after each table mentioning the prices. In the absence of these justifications, the said tax items shall be considered as final and without any rights for escalations in the future.
5. The quoted price shall be firm and there shall be no change.
6. TCMPF (Aavin), reserves the right to ask the Bidder to submit proof of payment against any of the taxes, duties, levies indicated.
7. Bidders are required to add additional rows to this table with any additional items they deem necessary to with regards to performance of the RFP document. In case some required items are not added or some rows are left blank, it would be assumed that the costs for the same are included in other line items.
8. Bidders are required to identify and add relevant notes for all types and values of taxes separately. If no additional notes are present, it will be assumed that all taxes have been considered by the Bidder. For each tax items, unless accompanied by relevant justification, the same will not be allowed and the values will be deducted before the final calculations are made
9. Any equipment, especially the printers quoted should be of make and model so that their consumables (tonors, etc.) are available in ELCOT rate contract.
10. As per the Tamil Nadu Transparency in Tedners Rules 2000, TCMPF (Aavin), shall include the following in the evaliuation of the Price
    a. Excise Duties.
    b. Customs Duties.
    c. Where ALL the Bidders are from within the State of Tamil Nadu, VAT shall be included for evaluation of Price.
    d. Where ALL the Bidders are from outside the State of Tamil Nadu, VAT shall be included for evaluation of Price.
    e. Where the Bidders are from both the State of Tamil Nadu as well as from outside the State of Tamil Nadu, the VAT levied under Tamil Nadu Value Added Tax shall be excluded from the evaluation of Price.

    Note: The determination as to whether the Bidders are from Tamil Nadu or not shall be made on the basis of possession of TIN issued by the Commercial Tax Authorities of Tamil Nadu or outside the state. Bidders are required to attach these documents with the Commercial Bid as proof.
11. The quote in the Commercial Bid shall be inclusive of all costs including out of pocket expenses, Boarding, Lodging, Travel and other related items for all locations of implementation during the period of contract.

12. The Unit Rate as finalized and accepted shall also be used for the purpose of 'Change Order' for respective tendered items, if any. However, based on the market trends, TCMPF (Aavin), retains the right to negotiate the final accepted rate downward for future requirement. The prices quoted shall be valid till the end of contract period of the SI. Bidders are required to hold the rates for at least 3 years after completion of contract.
13. SI shall ensure that the products supplied are of latest specifications as per the OEM roadmap.
14. It is envisaged that this price bid shall form the basis for any future extension or additional works done under this contract and the unit prices in the respective sections shall govern such discussions. The SI is required to acknowledge that such prices shall be applicable for the entire duration of the contract, including any extensions agreed, thereof.

14.2. Commercial Bid Letter

To
Managing Director
Tamil Nadu Cooperative Milk Producers' Federation Ltd
Aavin Illam, Madhavaram Milk Colony,
Chennai – 600051
Tamil Nadu
Phone: 044 - 23464500-03
Fax: 044 - 044 23464505

Sir / Madam,

Subject: Appointment of an SI to Implement IDMS Application for AAVIN (TCMPF)
Reference: Tender No**: 3637/IDMS/2015** dated **26/04/2015**

We, the undersigned Bidder, having read and examined in detail the RFP documents in respect of **Appointment of an SI to Implement IDMS Application for TCMPF** do hereby propose to provide services as specified in the RFP documents number **3637/IDMS/2015** dated **26/04/2015.**

If our bid is accepted, we undertake to provide a performance security in the form, for the amount, and within the times specified in the Bidding Documents.

We confirm that all the prices mentioned in this form are in Indian Rupees.

1. PRICE AND VALIDITY

- All the prices mentioned in our Tender are in accordance with the terms as specified in the RFP documents. All the prices and other terms and conditions of this Tender are valid for a period of 90 days from the date of opening of Bids. This can be extended as per the request of the TCMPF.
- We hereby confirm that our Bid prices are as per the format called for. All the taxes are quoted separately under relevant sections.

2. UNIT RATES

We have indicated in the relevant schedules enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to / decrease from the scope of work under the contract.

3. BID PRICING

We further confirm that the prices stated in our bid are in accordance with your Instruction to Bidders included in RFP documents.

4. QUALIFYING DATA

We confirm having submitted the information as required by you in your Instruction to Bidders. In case you require any other further information/documentary proof in this regard before evaluation of our Tender, we agree to furnish the same in time to your satisfaction.

5. BID PRICE

We declare that our Bid Price is for the entire scope of the work as specified in the Schedule of Requirements and RFP documents. These prices are indicated in this Section attached with our Tender.

We hereby declare that our Tender is made in good faith, without collusion and the information contained in the Tender are true and correct to the best of our knowledge and belief.

We understand that our Tender is binding on us and that you are not bound to accept a Tender you receive.

Until the formal final Contract is prepared and executed between us, this bid, together with your written acceptance of the bid and your notification of award, shall constitute a binding contract between us.

We confirm that no deviations are attached here with this commercial offer.

Thanking you,

Yours faithfully,

(Signature of the Bidder)
Printed Name
Designation

Date:
Place:
Business Address:
Seal:

14.3. Total Value of Price Bid

S. No.	Particulars	Amount exclusive of all taxes (Basic Price) INR	Excise and Customs INR	VAT levied under TNVAT INR	VAT (other than VAT levied under TNVAT) INR	Other Taxes (to be specified) – Please add additional columns if needed	Total Amount INR
A	B	D	E	F	G	H	I = D + E + F + G + H
1	Part I – User Hardware Supply and Commissioning						
2	Part II – Application Development and Commissioing						
3	Part III – O & M						
	Total Value (in figures)						
	Total Value (in Words)						

Notes:

- The values in this form shall be copied from the respective sub Section Totals.
- The final award shall be based on the Total Cost as per instructions given.

14.3.1. Part I - User Hardware Supply and Commissioning

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
1.	**User Hardware Supply & Commissioning**								
1.1.	Desktops/ /AIO with OS and Anti Virus	600	Nos						
1.2.	Laptop with OS and Anti Virus	56	Nos						
1.3.	Laser Printer	152	Nos						
1.4.	MFPs	47	Nos						
1.5.	MFP Colour	7	Nos						
1.6.	Tablet Computer	22	Nos						
1.7.	POS Device with OS, Application and Anti Virus	30	Nos						
1.8.	Thermal Printer	30	Nos						
1.9.	UPS - 5 KVA	12	Nos						
1.10.	UPS - 3 KVA	33	Nos						
1.11.	UPS - 600 VA	80	Nos						
1.12.	Wireless Router –	10	Nos						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
	b/g/n/ac								
	TOTAL								

Notes:

- Bidders are required to identify and add relevant notes for all types and values of taxes separately. If no additional notes are present, it will be assumed that all taxes have been considered by the Bidder.
- For each tax items, unless accompanied by relevant justification, the same will not be allowed and the values will be deducted before the final calculations are made. All others Taxes to be added as columns and be specified.
- All equipment quoted here should be such that their replacement and spare parts are available as part of ELCOT rate contract.

14.3.2. Part II – Application Development and Commissioning

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
2.	**Application Development**								
2.1.	Application Design, Development cost for all modules required as proposed in the RFP	1	LS						
2.2.	Implementation of the Application as per Location List (Except Society Module)	1	LS						
2.3.	Implementation of Society Module	300	LS						
2.4.	Testing & Final Acceptance Test	1	LS						
2.5.	Pilot Implementation Cost	1	LS						
2.6.	Security Audit Cost	1	LS						
2.7.	Roll Out Implementation Cost	1	LS						
3.	**Manpower Cost**								
3.1.	Project Director	As Required (please enter	Person Months						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
		Person Months Proposed)							
3.2.	Project Manager	As Required (please enter Person Months Proposed)	Person Months						
3.3.	Application Development Manager	As Required (please enter Person Months Proposed)	Person Months						
3.4.	Configuration / Release Manager	As Required (please enter Person Months	Person Months						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
		Proposed)							
3.5.	Business Analyst / Requirements Gathering Expert	As Required (please enter Person Months Proposed)	Person Months						
3.6.	Dairy Domain Expert	As Required (please enter Person Months Proposed)	Person Months						
3.7.	Information Architect / Data Design and Modelling Expert	As Required (please enter Person Months Proposed)	Person Months						
3.8.	UI / UX Expert	As Required	Person						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
		(please enter Person Months Proposed)	Months						
3.9.	Training / Capacity Building / Organizational Change Expert	As Required (please enter Person Months Proposed)	Person Months						
3.10.	Network Specialist	As Required (please enter Person Months Proposed)	Person Months						
3.11.	Module / Team Leaders / Systems Analyst	As Required (please enter Person	Person Months						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
		Months Proposed)							
3.12.	Programmers	As Required (please enter Person Months Proposed)	Person Months						
3.13.	Database Administrator	As Required (please enter Person Months Proposed)	Person Months						
3.14.	Data Centre / Server Administrator	As Required (please enter Person Months Proposed)	Person Months						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
3.15.	Testing / Quality Assurance Specialists	As Required (please enter Person Months Proposed)	Person Months						
3.16.	Other Personnel Resources (as required) – Please specify	As Required (please enter Person Months Proposed)	Person Months						
3.17.	Field Visits, Travel, Boarding, Lodging, and related expenses (Please specify)								
4.	**IT Server Compute Infrastructure supply & Commissioning (incl. license cost, if any)**								
4.1.	Servers to Support (Application, Web, DB Server with hardware	As Required (Please	Nos						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
	Encryption Device Management, Database License, Business Intelligence, ETL, Mail & Messaging, File, Print & Fax, AntiVirus, Backup and Archival and others as required) with appropriate Software. [Please list each component separately]	specify)							
4.2.	HIPS	As Required	Nos						
4.3.	Access/Application Switches	As Required	Nos						
4.4.	OS Licensed (in line with server requirement envisaged above)	As Required	LS						
4.5.	SAN Storage – 40 TB with hardware and enclosures	As Required	LS						
4.6.	Middleware (in line with server requirement envisaged above)	As required	LS						
4.7.	EMS/NMS Software	As Required	LS						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
4.8.	Console/KVM switch/Desktop	As required	Nos						
5.	**Disaster Recovery Infrastructure supply & Commissioning (incl. license cost, if any)**								
5.1.	Application Server	As Required	Nos						
5.2.	Web Server	As Required	Nos						
5.3.	Management Server	As Required	Nos						
5.4.	Database Server with Software	As Required	Nos						
5.5.	Mail & Messaging server with software	As Required	Nos						
5.6.	Antivirus Server with Software	As Required	Nos						
5.7.	HIPS	As Required	Nos						
5.8.	Backup Server with Software	As Required	Nos						
5.9.	Archival Software	As Required	Nos						
5.10.	Access/Application Switches	As Required	Nos						
5.11.	OS (in line with server requirement envisaged above)	As Required	LS						
5.12.	SAN Storage	As Required	LS						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
5.13.	Middleware (in line with server requirement envisaged above)	As Required	LS						
5.14.	EMS/NMS Software	As Required	LS						
5.15.	Console/KVM switch/Desktop	As Required	Nos						
5.16.	DR Software	As Required	Nos						
6.	**Site Preparation at specified Locations**								
6.1.	DR Site Preparation	1	Nos						
6.2.	Complexes	11	Nos						
6.3.	Chilling Centres	9	Nos						
6.4.	Zonal Offices	16	Nos						
7.	**Training & Change Management**								
7.1.	Application Training (including Training material)	6000	Person Days						
7.2.	Systems Training (including Training material)	300	Person Days						
7.3.	Training Infrastructure including Projector, Computer Systems, etc.	As Required	LS						

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
7.4.	Change Management & Sensitization Programmes	As Required	LS						
7.5.	Cost of Online Training Module Development	As Required	LS						
8.	**Network Connectivity**								
8.1.	Internet Router + Modem	36	Nos						
8.2.	48 Port Switch	2	Nos						
8.3.	24 Port Switch	58	Nos						
8.4.	8 Port Switch	10	Nos						
8.5.	15 U Rack	2	Nos						
8.6.	12 U Rack	6	Nos						
8.7.	9 U Rack	56	Nos						
8.8.	Network Cable	As Required	LS						
8.9.	Data Card	150	Nos						
8.10.	Bandwidth Charge for Year 0 (Upto start of Maintenance Phase)	As Required	LS						
9.	**Help Desk**								

Implementation Phase									
S.No	**Particulars**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
9.1.	Supply and Commissioning of helpdesk setup (Desktop, Phone, 5-seater, LAN Connectivity, Desktops, UPS, Printers, Scanners, etc.)	1	LS						
10.	**Incident Management**								
10.1.	Incident Management Solution and Licesnes as Required	As Required	LS						
11.	**Miscellaneous**								
11.1.	Others, if any - Bidders should examine the requirements of the project in addition if any required for complying with the SLAs (Add additional rows if required)	As Required							
	Sub Total – Application Development and Commissioning								

Notes:

- Bidders are required to add additional rows to this table with any additional items they deem necessary to with regards to the RFP document. In case some required items are not added, it would be assumed that the costs for the same are subsumed in other line items.
- Bidders are required to identify and add relevant notes for all types and values of taxes separately. If no additional notes are present, it will be assumed that all taxes have been considered by the Bidder.
- For each tax items, unless accompanied by relevant justification, the same will not be allowed and the values will be deducted before the final calculations are made.
- All equipment quoted here should be such that their replacement and spare parts are available as part of ELCOT rate contract.

14.3.3. Part III – Operations and Maintenance

Operations & Maintenance Phase										
S.No	**Particulars**	**No. of Years Required**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
1.	Application support for the entire IDMS application for 2 years	2	As Required	LS						
2.	FMS & AMC at Data Centre related Hardware / Software – till start of O&M Phase	As Required	As Required	LS						
3.	FMS & AMC at Data Centre related Hardware / Software	2	As Required	LS						
4.	FMS & AMC at DR related Hardware /	As Required	As Required	LS						

Operations & Maintenance Phase										
S.No	**Particulars**	**No. of Years Required**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
	Software – till start of O&M Phase									
5.	FMS & AMC at DR related Hardware & Software	2	As Required	LS						
6.	FMS & AMC for supplied User Hardware – till start of O&M Phase	As Required	As Required	LS						
7.	AMC Support for supplied User Hardware	2	As Required	LS						
8.	Change Management – 1 Person Full time	2	24	Person Months						
9.	Annual Recurring charges for	2	As Required	LS						

Operations & Maintenance Phase										
S.No	**Particulars**	**No. of Years Required**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
	Connectivity and Redundant Connectivity									
10.	Periodic Security and Performance Testing & conformance	2	As Required	LS						
11.	3 FTE for Application Enhancement	2	72	Person Months						
12.	Helpdesk manpower	2	As Required	LS						
13.	SLA Monitoring & Reporting	2	As Required	LS						
14.	Data Centre Operation Charges	-	As Required	LS						
15.	Others, if any -	2								

Operations & Maintenance Phase										
S.No	**Particulars**	**No. of Years Required**	**Quantity**	**Unit Measure**	**Amount exclusive of all taxes (Basic Price) INR**	**Excise and Customs INR**	**VAT levied under TNVAT INR**	**VAT (other than VAT levied under TNVAT) INR**	**Other Taxes (to be specified) – Please add additional columns if needed**	**End Price INR**
A	**B**	**C**	**D**	**E**	**E**	**F**	**G**	**H**	**I**	**J = C * (E + F + G + H + I)**
	Bidders should examine the requirements of the project in addition if any required for complying with the SLAs (Add additional rows if required)									
	Sub Total – O&M Phase									

Notes:

- Bidders are required to add additional rows to this table with any additional items they deem necessary to with regards to the RFP document. In case some required items are not added, it would be assumed that the costs for the same are subsumed in other line items.

- Bidders are required to identify and add relevant notes for all types and values of taxes separately. If no additional notes are present, it will be assumed that all taxes have been considered by the Bidder.
- For each tax items, unless accompanied by relevant justification, the same will not be allowed and the values will be deducted before the final calculations are made.

Annexure (Additional Document to RFP) To-be & FRS Report

Integrated Dairy Management System (IDMS Project) For Aavin

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1. Introduction

1.1. Executive Summary

The report envisions effective transformation of Federation and unions from existing operating environment by leveraging information system, modern integration approaches and technologies to enhance business capabilities & performances.

This report is prepared on the basis of the key business objectives set and the understanding of the current state processes in TCMPF along with the identified process Gaps. It documents the details of the desired changes in the process provided for Aavin as part of the IDMS solution.
At a high level this report includes:

- The Big Picture of how different functions will interact and interface with each other in the to-be scenario
- Discuss the key recommended changes in the processes of TCMPF due to technology intervention.
- Discuss various technology options to enable the recommended changes and a high level comparative analysis of these options
- Functional Requirements Specification (FRS) intends to capture the project needs and required behaviour of a system or module. It specifies what the finished system or application is expected to do and how a user will interact with it.

Recommended information system in this report is designed in such a way that it increases efficiencies, reduces costs and provides continuous information flow and facilitates transactions between legally separate entities (Federation, District Unions and Primary Societies) and stakeholders. TCMPF has numerous members, large volume of daily transactions and wide geographical spread operations and it became all the more important to have milk procurement, sales & distribution, financial & membership information always at hand to facilitate faster & better decision making.

Envisaged system would provide a single integrated platform wherein central data repository would be created and maintained. Information would flow seamlessly from field level devices, equipment and different functional units in to the central data repository. Field devices and functional units would share collected data through network connectivity on either a periodic frequency or on real time basis. Two way communication options would be available for enabling both “PUSH” & “PULL” features. All the key function such as milk procurement, Transportation, finance, sales & distribution, farmer lifecycle management, input services, HR, purchase would be integrated and will be able to deliver the overarching functionality. Different technology options are evaluated and suggested in this report.

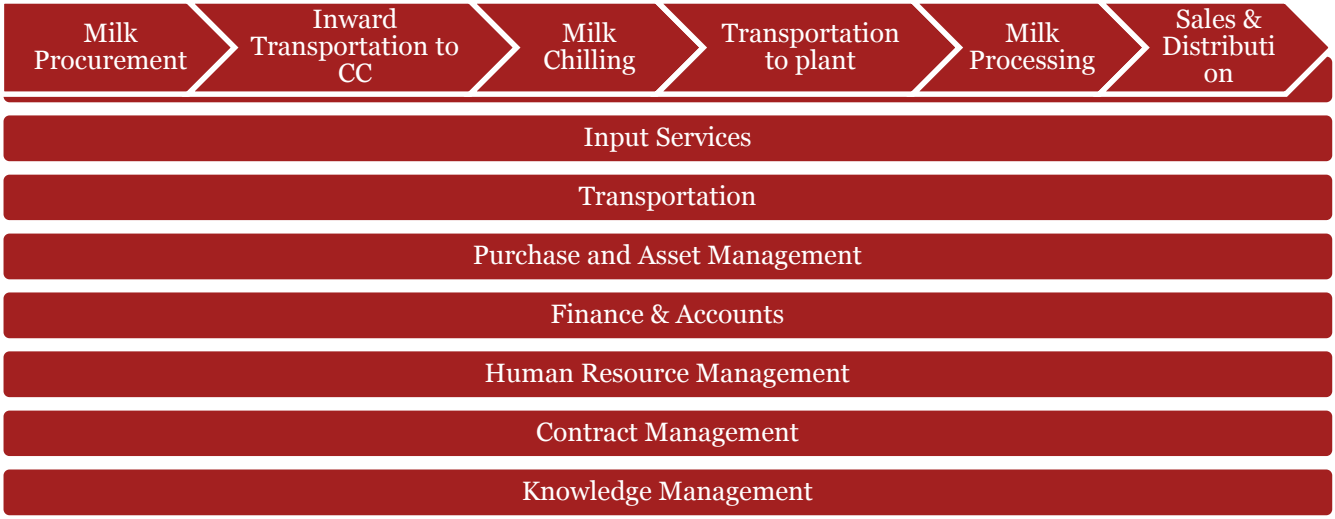
Tamil Nadu Cooperatives Milk Producers’ Federation (TCMPF) is in the process of creating Self-sufficient, robust system for dairy management and intends to leverage the potential IT Systems right from the inception stage. This initiative will certainly help aavin to operate as a single integrated unit with seamless information exchange so as to enable greater efficiency and transparency.

2. Dairy Value Chain

The value chain is a set of interlined activities performed by TCMPF in order to deliver value to the members and end customers. These operations can also be compared in terms of the standard industry value chain, which helps to identify the industry standard processes and hence use standardized approach in designing its processes.

2.1. Value Chain of Aavin Dairy

Based on the recommendations provided for Aavin, we have created the envisaged value chain mentioning the high-level changes in steps and corresponding IT intervention in the working of the federation. Below diagram represent the value chain. This diagram consists of 2 sections, one for core activities and another for support activities. Core Activities of Aavin as depicted in the following diagram:



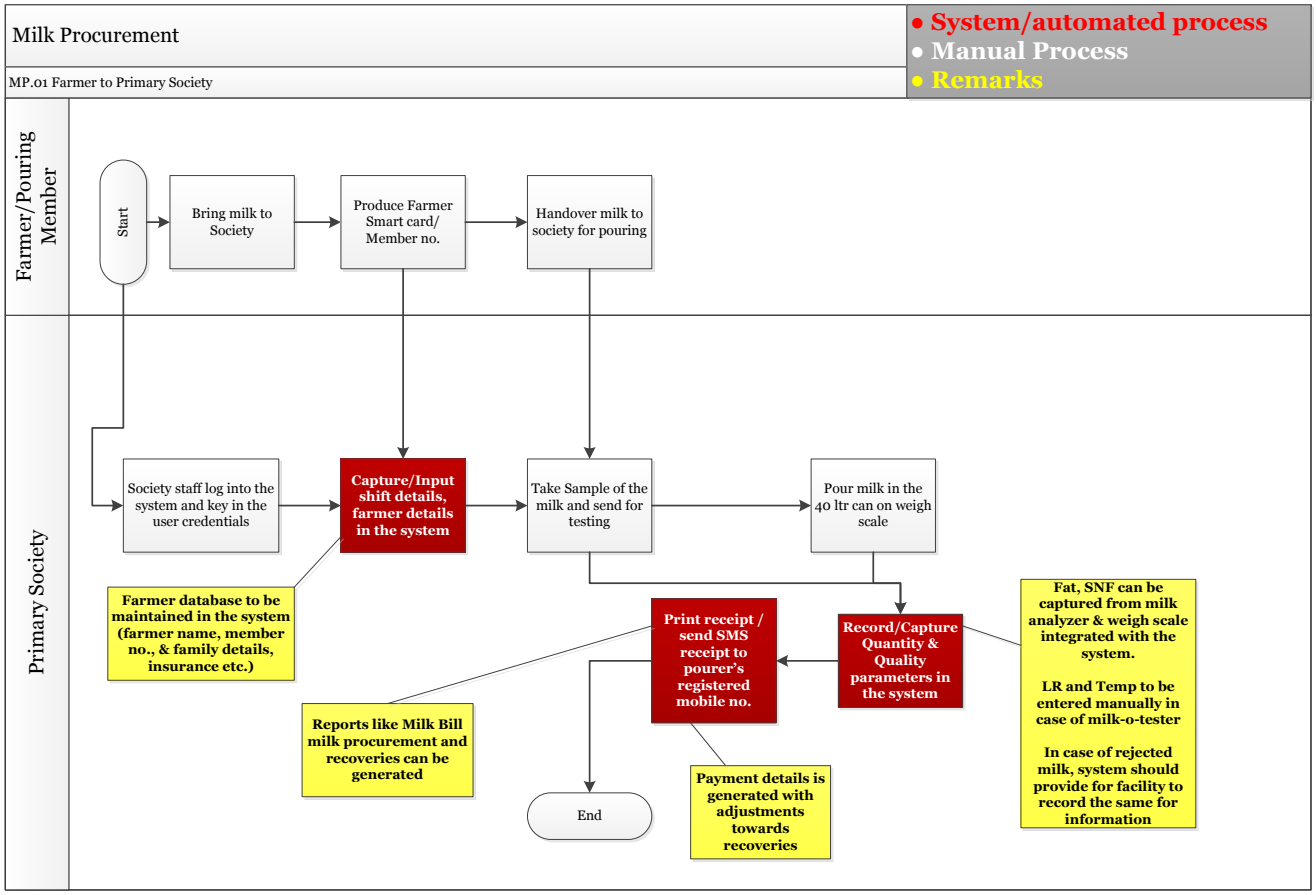
3. Envisaged To-Be Processes & FRS

Value chain as depicted above is further expanded in this section with process flow of each of the activities and IT intervention recommended.

3.1. Milk Procurement

9.1.1. Farmer to Society

9.1.1.1. Process Map

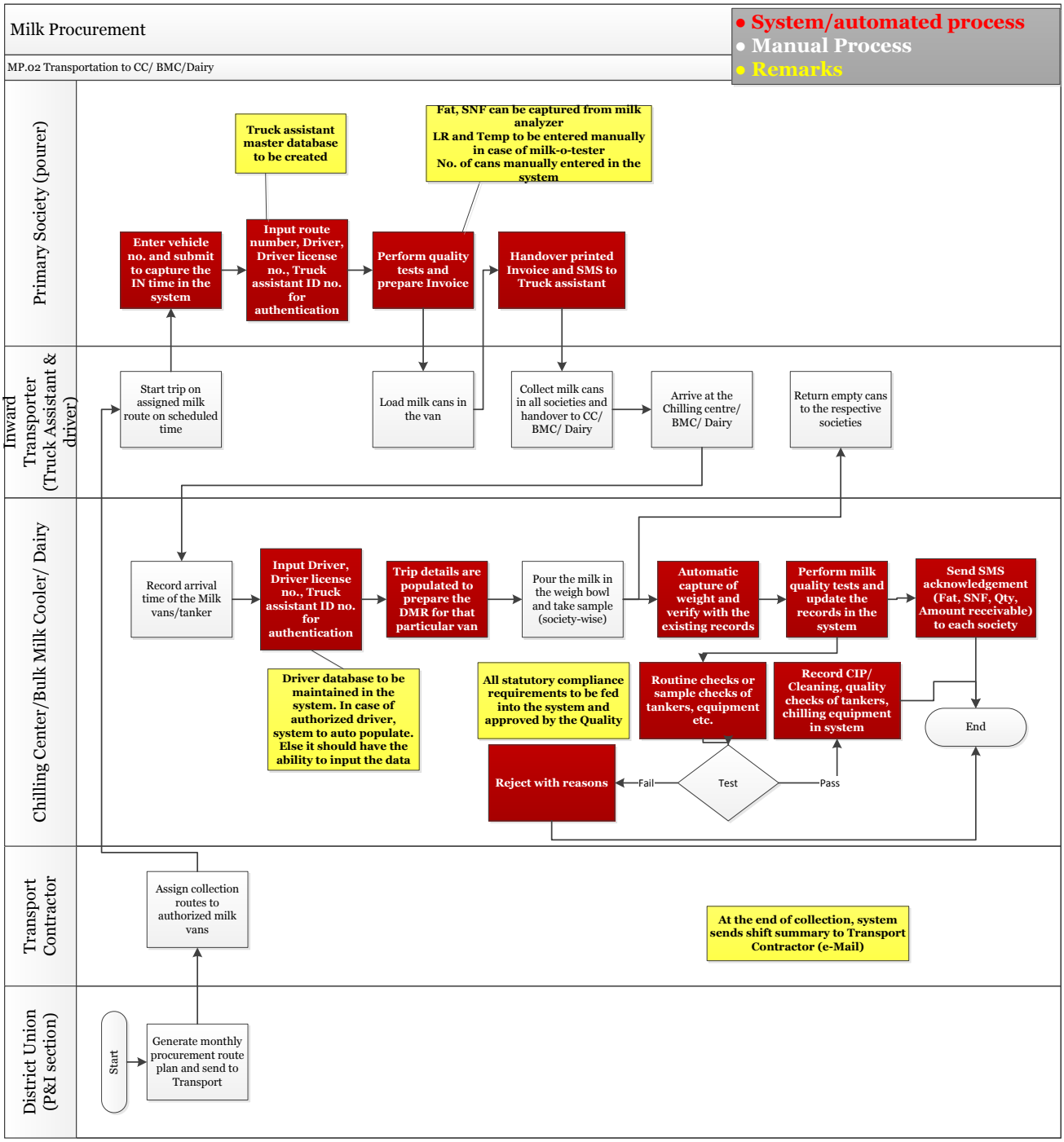

Milk Procurement
MP.01 Farmer to Primary Society
• System/automated process
• Manual Process
• Remarks
Farmer/Pouring Member
Primary Society
Start
Bring milk to Society
Produce Farmer Smart card/ Member no.
Handover milk to society for pouring
Society staff log into the system and key in the user credentials
Capture/Input shift details, farmer details in the system
Take Sample of the milk and send for testing
Pour milk in the 40 ltr can on weigh scale
Farmer database to be maintained in the system (farmer name, member no., & family details, insurance etc.)
Print receipt / send SMS receipt to pourer's registered mobile no.
Record/Capture Quantity & Quality parameters in the system
Fat, SNF can be captured from milk analyzer & weigh scale integrated with the system.
LR and Temp to be entered manually in case of milk-o-tester
In case of rejected milk, system should provide for facility to record the same for information
Reports like Milk Bill milk procurement and recoveries can be generated
End
Payment details is generated with adjustments towards recoveries

9.1.1.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Society staff logs into the IDMS system. Users to be given login details with the appropriate rights as per defined in the system.	Society Staff
2	Farmer/ pourer brings the milk to the society and produces the Smart card/ membership number	Farmer (Farmer does not have system login)
3	Society staff captures/ inputs the farmer membership no and the farmer details are displayed. Farmer database is to be maintained in the system. Details of the farmer to be recorded in the system at the time of registration of the farmer. During registration, membership number should be generated by the system based. Details like farmer name, family details, insurance, mobile number etc. should be maintained. Members can be tagged as active or inactive in the system based on their pouring history. Any changes in the system can be done only by those users with the appropriate rights and through the workflow defined in the system.	Society Staff
4	Pourer hands over the milk for pouring	Farmer (Farmer does not have system login)
5	Sample is taken for testing and the milk is poured in the 40 litre can Quantity & Quality parameters are recorded/captured in the system (In case of rejected milk, system should provide for facility to record the same for information) Weight would be captured by the weigh scale that is to be integrated to IDMS Fat, SNF can be captured from milk analyzer is to be integrated with the system. LR and Temp to be entered manually in case of milk-o-tester The quality parameters along with the weight (quantity) of the milk should be tagged to the respective pourer. Pouring history of the farmer can be generated as a report	Society Staff
6	Print receipt /send SMS receipt to pourer's registered mobile no.	Society Staff
7	Reports can be generated to know the recoveries from the farmers. Accordingly the payment adjustments towards recoveries can be done in the milk bill of the farmers based on the input services provided to them.	Society Staff

9.1.2. *Transportation from Society to CC/ BMC/ Dairy*

9.1.2.1. *Process Map*

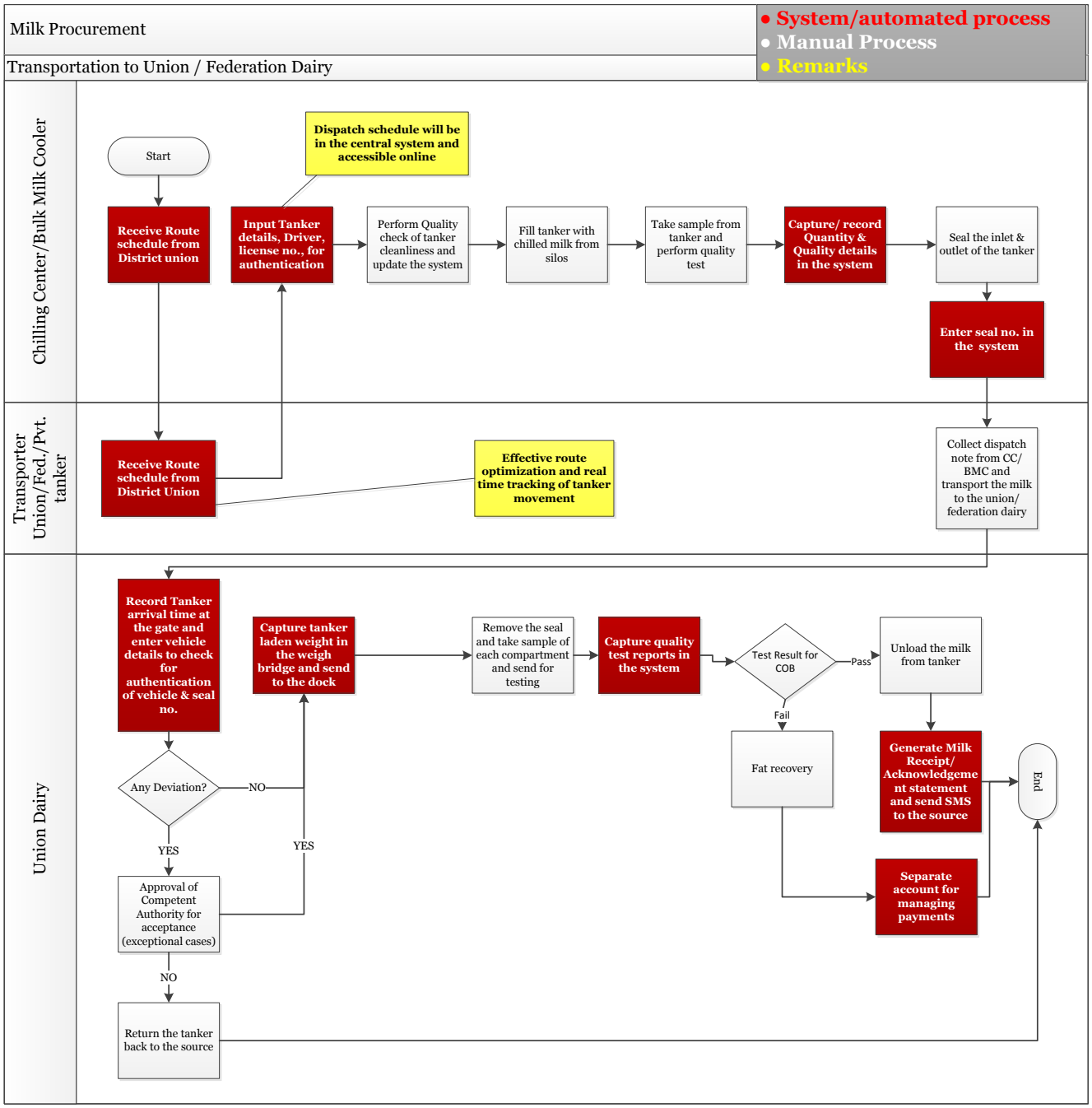

Milk Procurement
MP.02 Transportation to CC/ BMC/Dairy
• System/automated process
• Manual Process
• Remarks
Primary Society (pourer)
Truck assistant master database to be created
Fat, SNF can be captured from milk analyzer
LR and Temp to be entered manually in case of milk-o-tester
No. of cans manually entered in the system
Enter vehicle no. and submit to capture the IN time in the system
Input route number, Driver, Driver license no., Truck assistant ID no. for authentication
Perform quality tests and prepare Invoice
Handover printed Invoice and SMS to Truck assistant
Inward Transporter (Truck Assistant & driver)
Start trip on assigned milk route on scheduled time
Load milk cans in the van
Collect milk cans in all societies and handover to CC/ BMC/ Dairy
Arrive at the Chilling centre/ BMC/ Dairy
Return empty cans to the respective societies
Chilling Center/Bulk Milk Cooler/ Dairy
Record arrival time of the Milk vans/tanker
Input Driver, Driver license no., Truck assistant ID no. for authentication
Trip details are populated to prepare the DMR for that particular van
Pour the milk in the weigh bowl and take sample (society-wise)
Automatic capture of weight and verify with the existing records
Perform milk quality tests and update the records in the system
Send SMS acknowledgement (Fat, SNF, Qty, Amount receivable) to each society
Driver database to be maintained in the system. In case of authorized driver, system to auto populate. Else it should have the ability to input the data
All statutory compliance requirements to be fed into the system and approved by the Quality
Routine checks or sample checks of tankers, equipment etc.
Record CIP/ Cleaning, quality checks of tankers, chilling equipment in system
End
Reject with reasons
Fail
Test
Pass
Transport Contractor
Assign collection routes to authorized milk vans
At the end of collection, system sends shift summary to Transport Contractor (e-Mail)
District Union (P&I section)
Start
Generate monthly procurement route plan and send to Transport

9.1.2.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Generate monthly procurement route plan and send to Transport contractor.	P&I in-charge at District Union
2	Assign collection routes to authorized milk vans. Database of authorized vehicles (tankers and milk vans) to be maintained in the system.	Transport Contractor (does not have system login)
3	Start trip on assigned milk route on scheduled time.	Inward transporter (Truck assistant and driver) (does not have system login)
4	On entering the society, enter vehicle no. and submit to capture the IN time in the system. Input route number, Driver, Driver license no., Truck assistant ID no. for authentication. Truck assistant master database to be created in the system for better monitoring and accountability.	Society Staff
5	Perform quality tests and prepare Invoice. Handover printed Invoice and SMS sent to Truck assistant after loading of cans in the van	Society Staff
6	Load milk cans in the van. On loading the cans, the Society Staff has to acknowledge the number of cans loaded. Milk van leaves for the next destination. Collect milk cans in all societies and handover to CC/BMC/ Dairy.	Inward transporter (Truck assistant and driver) (does not have system login)
7	Record arrival time of the Milk van/ tanker. Input Driver, Driver license no., Truck assistant ID no. for authentication. Driver database to be maintained in the system. In case of authorized driver, system will auto populate the same. Else it should have the ability to input the data. On entering the aforementioned data, trip details are populated to prepare the DMR for that particular vehicle. In case of changes in the vehicles (due to breakdown) they need to be reported and entered in the system.	Milk Recorder at Chilling Center and Dairy/Staff concerned at Bulk Milk Cooler
8	Pour the milk in the weigh bowl and take sample (society-wise) for sending to QC lab and empty cans are directed to be returned to the respective societies. In case of societies that are not yet computerized, the staff at the CC/ BMC/ Dairy has to manually enter the society code and manage the transactions thereafter.	Milk reception at Chilling Center/Bulk Milk Cooler/ Dairy (does not have system login)
9	Automatic capture of weight and verify with the existing records in the system. Perform milk quality tests and update the records in the system through integration of quality testing equipment with IDMS. System sends SMS acknowledgement (Fat, SNF, Qty, Amount receivable etc.) to each society	Milk Recorder for accounting of milk and Lab in-charge for testing and recording quality at Chilling Center/Bulk Milk Cooler/ Dairy
10	Routine checks or sample checks of tankers, equipment etc. is carried out. All statutory compliance requirements to be defined in the system and approved by the Quality section. If complied, then record CIP/Cleaning, quality checks of tankers, chilling equipment in system. If not complied with the statutory requirement, then reject with reasons. JDO at the CC would monitor the activities.	Lab in-charge at Chilling Center/Bulk Milk Cooler/ Dairy

9.1.3. Transportation from CC/ BMC to Union Dairy

9.1.3.1. Process Map

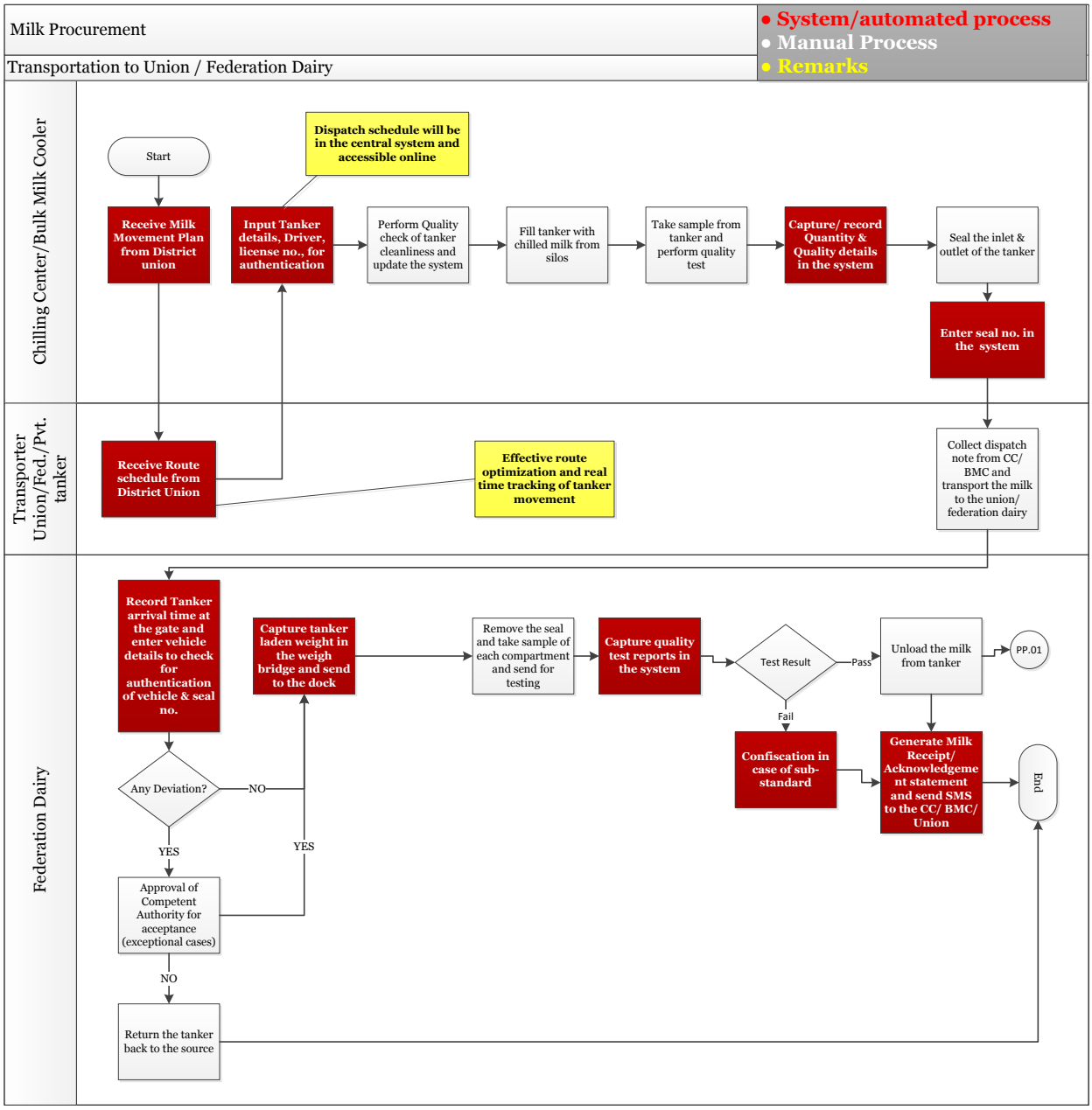

Milk Procurement
Transportation to Union / Federation Dairy
System/automated process
Manual Process
Remarks
Chilling Center/Bulk Milk Cooler
Transporter Union/Fed./Pvt. tanker
Union Dairy
Start
Dispatch schedule will be in the central system and accessible online
Receive Route schedule from District union
Input Tanker details, Driver, license no., for authentication
Perform Quality check of tanker cleanliness and update the system
Fill tanker with chilled milk from silos
Take sample from tanker and perform quality test
Capture/ record Quantity & Quality details in the system
Seal the inlet & outlet of the tanker
Enter seal no. in the system
Receive Route schedule from District Union
Effective route optimization and real time tracking of tanker movement
Collect dispatch note from CC/ BMC and transport the milk to the union/ federation dairy
Record Tanker arrival time at the gate and enter vehicle details to check for authentication of vehicle & seal no.
Capture tanker laden weight in the weigh bridge and send to the dock
Remove the seal and take sample of each compartment and send for testing
Capture quality test reports in the system
Test Result for COB
Pass
Fail
Unload the milk from tanker
Fat recovery
Generate Milk Receipt/ Acknowledgement statement and send SMS to the source
End
Separate account for managing payments
Any Deviation?
NO
YES
YES
Approval of Competent Authority for acceptance (exceptional cases)
NO
Return the tanker back to the source

9.1.3.2. *Process Description*

Sl. No.	Activity	Process Owner
1	On arrival of the vehicle, input vehicle details, Driver, license no., for authentication. Route schedule will be in the central system and accessible online.	Milk Recorder at Chilling Center/Bulk Milk Cooler/ Dairy
2	Perform Quality check of tanker cleanliness and update the system. Fill tanker with chilled milk from silos	Quality section In-charge at Chilling Center/Bulk Milk Cooler
3	Take sample from tanker and perform quality test for knowing the quality parameters of the individual compartments of the tanker and post in the system	Quality section In-charge at Chilling Center/Bulk Milk Cooler
4	Capture/ record Quantity & Quality details in the system	In-charge at Chilling Center/Bulk Milk Cooler
5	On sealing the inlet and outlet, enter seal number in the system	In-charge at at Chilling Center/Bulk Milk Cooler
6	Collect dispatch note from CC/BMC and transport the milk to the union/federation dairy	Transporter Union/Fed./Pvt. Tanker (no login
7	Record Tanker arrival time at the gate and enter vehicle details to check for authentication of vehicle & seal no. In case of any discrepancy it is sent to Competent Authority for acceptance (only in exceptional cases). Such acceptance should be accompanied with appropriate remarks. If not approved for acceptance, the tanker should be returned to the source.	Personnel at the gate in the District Union Approval by Competent Authority in cases of discrepancy to be defined
8	In case of no discrepancy in the seal number, capture tanker laden weight in the weigh bridge and send to the dock. *Note: Un-laden weight to be recorded after unloading milk*	Weigh bridge in charge at Dairy
9	Remove the seal and collect sample and record temperature and conduct COB test.	Quality section In charge at Dairy
10	In case test results for COB fail, send for fat recovery and separate account is maintained for managing payments. In case COB test passes, unload the milk from tanker and send for Quality tests for fat and SNF and generate Milk Receipt/Acknowledgement statement from the system. SMS is sent to the source	In charge at Dairy

9.1.4. Transportation from CC/ BMC to Federation Dairy

9.1.4.1. Process Map


Milk Procurement
Transportation to Union / Federation Dairy
System/automated process
Manual Process
Remarks
Chilling Center/Bulk Milk Cooler
Transporter Union/Fed./Pvt. tanker
Federation Dairy
Start
Dispatch schedule will be in the central system and accessible online
Receive Milk Movement Plan from District union
Input Tanker details, Driver, license no., for authentication
Perform Quality check of tanker cleanliness and update the system
Fill tanker with chilled milk from silos
Take sample from tanker and perform quality test
Capture/ record Quantity & Quality details in the system
Seal the inlet & outlet of the tanker
Enter seal no. in the system
Receive Route schedule from District Union
Effective route optimization and real time tracking of tanker movement
Collect dispatch note from CC/ BMC and transport the milk to the union/ federation dairy
Record Tanker arrival time at the gate and enter vehicle details to check for authentication of vehicle & seal no.
Capture tanker laden weight in the weigh bridge and send to the dock
Remove the seal and take sample of each compartment and send for testing
Capture quality test reports in the system
Test Result
Pass
Fail
Unload the milk from tanker
PP.01
Confiscation in case of sub-standard
Generate Milk Receipt/ Acknowledgement statement and send SMS to the CC/ BMC/ Union
End
Any Deviation?
NO
YES
YES
Approval of Competent Authority for acceptance (exceptional cases)
NO
Return the tanker back to the source

9.1.4.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Send Milk Movement Plan sent to the CC/ BMC/ Union Dairy	Planning section at Federation
2	Receive Route schedule from District Union.	Transport Contractor (does not have system login)
3	On arrival of the tanker, input Tanker details, Driver, license no., for authentication. Dispatch schedule will be in the central system and accessible online.	Personnel at the gate at Chilling Center/Bulk Milk Cooler
4	Perform Quality check of tanker cleanliness and update the system. Fill tanker with chilled milk from silos	Quality section in charge at Chilling Center/Bulk Milk Cooler
5	Take sample from tanker and perform quality test for knowing the quality parameters of the individual compartments of the tanker	Quality section in charge at Chilling Center/Bulk Milk Cooler
6	Capture/ record Quantity & Quality details in the system	In-charge at Chilling Center/Bulk Milk Cooler/ Union Dairy
7	On sealing the inlet and outlet, enter seal number in the system	In-charge at Chilling Center/Bulk Milk Cooler/ Union Dairy
8	Collect dispatch note from CC/BMC and transport the milk to the federation dairy	Transporter Union/Fed./Pvt. Tanker
9	Record Tanker arrival time at the gate and enter vehicle details to check for authentication of vehicle & seal no. In case of any discrepancy it is sent to Competent Authority for acceptance (only in exceptional cases). Such acceptance should be accompanied with appropriate remarks. If not approved for acceptance, the tanker should be returned to the source.	Personnel at the gate at Federation Dairy Approval by Competent Authority in cases of discrepancy to be defined
10	In case of no discrepancy in the seal number, capture tanker laden weight in the weigh bridge and send to the dock. *Note: Un-laden weight to be recorded after unloading milk*	Personnel at the weigh bridge at Federation Dairy
11	Remove the seal, record temperature and take sample of each compartment and send for testing	Quality section In charge at Federation Dairy
12	Capture quality test reports in the system	Quality section In charge at Federation Dairy
13	In case test results fail, confiscation in case of sub-standard. In case test passes, unload the milk from tanker. Production personnel gets notification about milk receipt and system generates Milk Receipt/Acknowledgement statement and send SMS to the CC/ BMC/ Union	Shift In charge at Federation Dairy

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Functionalities at Society	
Primary Society performs various activities related to milk and milk products. The following are the list of functionalities to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS: • Milk Procurement from farmers and billing the farmers • Providing input services to farmers • Enrolment of farmers/ pourers • Dispatch of milk to CC/BMC/unions • Arranging payments to the pourers • Providing support services to the members like Veterinary First Aid, Artificial Insemination services, cattle-feed sales, mineral mixture sales, fodder & fodder seed sales • Conducting training on Animal Husbandry & Dairying, etc. • Selling liquid milk for local consumers of the village • Maintenance of books of accounts (for physical and financial) • Getting the books of accounts audited	
S.No.	**Functional Requirement**
1.1.	**Milk pouring at Society**
1.1.1.	Ability to capture the details of the milk collected from the members directly from system or provision to enter manually into the system or capture the bar code /QR code from the farmer ID card. The details should be stored corresponding to the pouring member code. Following details to be captured (indicative list): • Date • Shift (AM/PM) • Time • Society/Collection point Code • Member Code • Fat% • SNF% • LR Reading • Temperature Reading • Rate per litre • Rate as per SNF/Fat • Quantity • Amount • Type of Milk • Society Can number • Sample bottle number
1.1.2.	Ability to provide unique user credentials for the primary societies
1.1.3.	Ability to capture quantity from the electronic weighment scale and to automatically convert quantity in kg to quantity in litres
1.1.4.	Ability to maintain master data (indicative list) in the system for the following: Member master (farmer name, registration no., & family details, insurance, etc.) Price master Asset master
1.1.5.	Ability to accept and reject the milk received from pouring member by recording the LR, In case

S. No.	Functional Requirement
	of rejecting the milk, record the details of the milk rejected against the particular pouring member
1.1.6.	Ability to record pourer wise milk collection transaction based on the milk price and the quantity, fat and SNF, LR, temperature of the milk
1.1.7.	Ability to integrate the following milk testing equipment with the system: Milk Analyzer Milk o Tester Milk Data Processing Unit
1.1.8.	Provision to generate report for shift end summary, milk type wise, by consolidating the details from all the pourers/members in that shift. Following details to be captured: **Society Details** • Society name • Society code • Date & Time of report generation • Total Members (Who poured in that shift) • Total Quantity of Milk Collected • Local Sales • Milk Dispatched • Average Fat% • Average SNF% • Amount (shift wise) • Type of milk (cow or buffalo) **Member/ Pourer Details** • Date & Time of pouring • Milk Type • Member code • Quantity in litre/Kg • Fat % • SNF % • CLR (if required) • Amount • Time of report generation • Type of milk (cow or buffalo)
1.1.9.	Ability to automatically calculate the recoveries from the milk bill prepared w.r.t any input services such as cattle feed, AI straws, veterinary services, fodder, loans and advances to the member
1.1.10.	Ability to calculate incentives to be given to the farmers based on various parameters provided in the system
1.1.11.	Ability to maintain financial books of accounts at the society level and maintain milk stock ledger in the system
1.2.	**Dispatch by Inward Transporter**
1.2.1.	Ability to identify the time of arrival and departure of the transporter based on the time of keying in the transaction
1.2.2.	Ability to capture cumulative measurement of milk by the transporter: - Quantity in litre - Fat % - SNF %
1.2.3.	Ability to capture the above cumulative measurements for mixed milk or separately for cow and buffalo milk
1.2.4.	Ability to record the truck assistant ID no. and transporter details (Driver name, Driver license no.)

S. No.	Functional Requirement
1.2.5.	Ability to maintain Transporter database and Truck assistant database in the central server
1.2.6.	Ability to send the dispatch note summary through SMS to the truck assistant Registered mobile no.
1.2.7.	Ability to maintain the transport contractor details in the system and accessible at the society level
1.2.8.	System should be able to print the acknowledgement and send the same through SMS to the truck assistant Registered mobile number available in the system
1.3.	**Data Transfer from Society**
1.3.1.	Ability to data upload of the milk collection data into the central server automatically using mobile based technology like GPRS/GSM
1.3.2.	Ensure security of milk collection data through direct interface with the milk analyser equipment
1.3.3.	The equipment and software system at Society should be able to upload and download the following data to/from the central server: - Members data with unique code from whom milk can be collected - Milk price details - Transporter details
1.3.4.	The system should be able to generate monthly procurement route plan for milk collection at the society
1.3.5.	Ability to automatically update the price chart from the central system and update the milk price in the society
1.3.6.	Ability to download member details and activate or deactivate a pourer/member in the database based on workflow defined in the system
1.3.7.	Ability to synchronize with the server as per the defined periodicity. System should have the provision to define the rules and the frequency of the synchronization.
1.3.8.	Ability to send route collection summary to the transport contractor

Functionalities at Chilling Centre/Bulk Milk Cooler

Chilling Centre/Bulk Milk Cooler performs activities related to milk and milk products. The following are the list of functionalities to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS:

- Collection of Milk from Various Societies and maintain the collected milk below 5 centigrade in Chilling silos
- Maintain records of total milk receipts, in liters across various societies
- Based on the Fat and SNF content the payment calculation
- Provide information to the District Unions for the payments to be made by the Federation
- Transportation of milk to various feeder dairies, milk dairies and product dairies for further processing of milk as per the indent received from district unions or federation

S.No.	Functional Requirement
1.4.	**Milk Procurement at CC/BMC**
1.4.1.	Ability to capture the time of arrival of inward transporter at CC/BMC
1.4.2.	Ability to access the dispatch details of each society connected to the respective CC/BMC along the respective routes
1.4.3.	Ability to capture milk collection details at CC/BMC. Following details (indicative) should be captured directly from the Milk testing equipment: • Date • Shift(AM/PM) • Time • Society Code • Type of Milk • Fat% • CLR

S. No.	Functional Requirement
	• SNF% • Quantity • Value
1.4.4.	Ability to record the details of rejected milk at CC/BMC. Following details need to be captured • Society code • Sample number • Reason of rejection
1.4.5.	Ability to verify and reconcile with the quality & quantity of milk dispatched at society and milk received at CC/BMC and provide alerts in case of discrepancies based on threshold limits set in the system
1.4.6.	System to have provision to schedule and maintain records for CIP cleaning, quality checking of milk tankers and any other quality tests as per statutory compliance
1.5.	**Data Transfer from CC/BMC**
1.5.1.	The system at CC/BMC should be able to capture all testing details and store the data in the central server.
1.5.2.	Ability to transmit the data from the system at CC/BMC to the central server if required on the real time or in batches mode or when network link is established.
1.5.3.	Ability to synchronize with the central server as per the defined periodicity. System should have the provision to define the rules and the frequency of the synchronization.
Functionalities at BMC/CC	
1.6.	**Registrations (Society)**
1.6.1.	Ability to register a Farmer/Pouring member and associate it to a Society.
1.6.2.	Ability to migrate pourer/member within societies
1.6.3.	Ability to log all migration activity for audit trail
1.7.	**Milk collection and testing**
1.7.1.	Ability to capture the time of arrival of inward transporter at BMC/CC
1.7.2.	Ability to capture milk collection details at BMC/CC per Society and milk type wise directly from the Milk testing equipment or there should be provision to enter data manually. Following details should be captured: • Society code •Total Quantity of Milk Collected • Fat% • SNF%
1.7.3.	Ability to capture milk collection details at CC per BMC wise directly from the Milk testing equipment or there should be the provision to enter data manually. Following details should be captured: • BMC code •Total Quantity of Milk Collected • Fat% • SNF%
1.7.4.	Ability to download Milk quality data of society from the central system and reconcile it with that of actual (A) measurement at CC
1.7.5.	Ability to raise an alert in case the quality details difference is more than the limit defined in the central system
1.7.6.	Ability to record the details of rejected milk. Following details need to be captured •Society/BMC code •Shift (Morning/Evening) •Number of route •Number of Society/BMC • Can number • Quantity of milk

S. No.	Functional Requirement
	• Reason of rejection
1.7.7.	Ability to record the milk sourage/curd details. Following details need to be captured: •Shift (Morning/Evening) •Number of route •Number of SOCIETY/BMC •Quantity, Fat%, SNF % • Action taken (Returned/Disposed) • Total quantity and value of the sold milk • Responsibility for spoilage (society/Contractor/CC)
1.7.8.	Ability to capture milk test results. The details captured should include Temp F/C, Taste/Flavour, COB, Alcohol, Acidity, Milk Quantity, Fat%, SNF%, Rosalic Neutraliser, MBRT and any other tests as required as per statutory norms
1.7.9.	Ability to send the exception SMS in case quality test confirms milk adulteration to the Phone number defined in the system
1.7.10.	Ability to prepare the BMC/CC variation report as per the defined frequency. System should have the provision to define the frequency to generate the report. Following details need to be captured: • BMC/CC Opening Stock • Stock of Milk received at BMC/CC from the inward transporter (Quantity, Fat and SNF) •Stock of actual milk collected at BMC/CC (Quantity, Fat and SNF) •Variation between SOCIETY and BMC/CC collection •Dispatchable Quantity
1.7.11.	Ability to capture all data in the software system either in online of offline mode and then upload remotely the above captured data into the server
1.8.	**Milk dispatch by Outward Transporter**
1.8.1.	Provision to identify and upload from the system the details of milk dispatch (i.e. the quantity of milk, assigned by the respective District Union, to be dispatched by the BMC/CC to the particular dairy)
1.8.2.	Ability to receive the SMS on the defined phone number specifying the quantity of milk, assigned by the respective District Union, to be dispatched by the BMC/CC to the particular plant
1.8.3.	Ability to capture the time of arrival of outward transporter and tanker number
1.8.4.	Ability to capture quality test results for the milk to be dispatched and generate quality report.
1.8.5.	Ability to capture the tanker milk dispatch details and prepare the tanker dispatch note at BMC/CC with the following details: • Tanker number • Tanker dispatch challan number • Tanker arrival date and time • Dispatch date and time • Seal number • Tare weight • Gross weight • Dispatch Location • Milk details by capturing directly through the milk testing equipment or entering data manually: Quantity, Fat, SNF, Temperature, Acidity, MBRT, Alcohol and COB
1.8.6.	Ability to capture the tanker milk dispatch note from one BMC to another BMC/CC. Following details have to be captured: • Dispatch location • Tanker number • Seal Number • Tanker dispatch challan number • Tanker arrival date and time

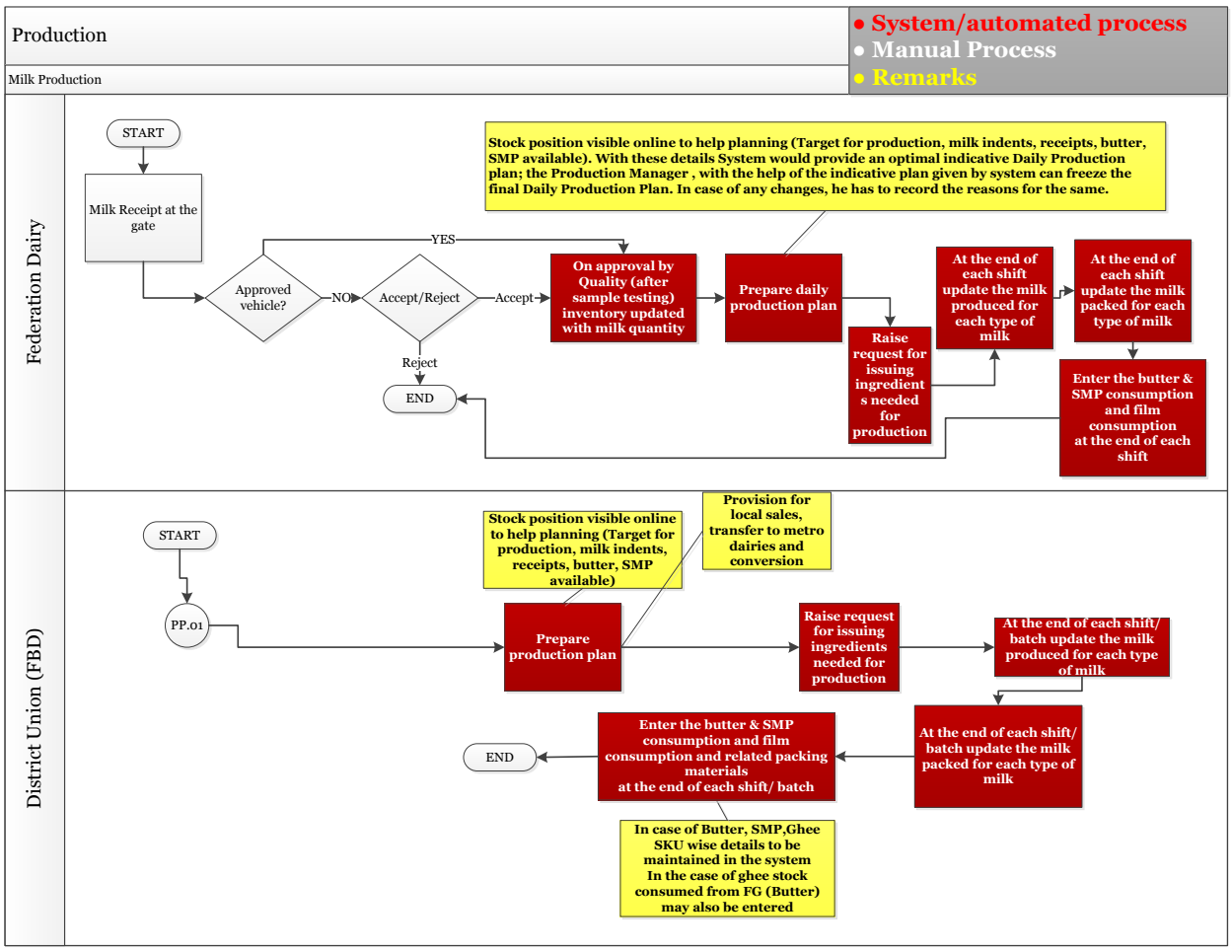
S. No.	Functional Requirement
	• Dispatch date and time • Seal number (if applicable) • Initial weight • Gross weight • Dispatch to location • Milk details from previous BMC(s) through the central server or entering data manually: Quantity, Fat, SNF and Acidity • Milk details by capturing directly through the milk testing equipment or entering data manually: Quantity, Fat, SNF, Temperature, Acidity, MBRT, Alcohol and COB
1.8.7.	Ability to capture the tanker milk dispatch note from BMCs to CC and prepare the tanker dispatch note with the following details: • Tanker number • Tanker dispatch challan number • Tanker arrival date and time • Dispatch date and time • Seal number • Gross weight • Milk details by capturing directly through milk testing equipment or entering data manually : Quantity, Fat, SNF, Temperature, Acidity, MBRT, Alcohol and COB
1.8.8.	Ability to capture tanker milk receipt details at dairy. Following details needs to be captured: • Tanker number • Seal Number • Tanker dispatch challan number • Tanker arrival date and time • Tanker dispatch date and time • Seal number • Gross weight • Dispatched from location • Milk details by capturing directly through milk testing equipment or entering data manually : Quantity, Fat, SNF, Temperature, Acidity, MBRT, Alcohol and COB
1.8.9.	Ability to capture data into the software system in online or offline mode and upload into the central server
1.9.	**Data Transfer from BMC/CC**
1.9.1.	The system at BMC/CC should be able to work online or offline and connect with the central system at Federation/union
1.9.2.	Ability to transmit the data from the system at BMC / CC to the central server. The data should be transmitted on the real time basis and in batches as well.
1.9.3.	Ability to operate in online as well as offline mode.
1.9.4.	Ability to synchronize with the central server as per the defined periodicity. System should have the provision to define the rules and the frequency of the synchronization.
1.9.5.	Ability to download/upload the data to/from the external storage devices such as Pen-drive, smartcard etc.
1.10.	**Registration (SOCIETY/BMC/CC)**
1.10.1.	Ability to register the BMC and CC by assigning a unique code
1.10.2.	Provision to map BMCs to a particular CC
1.10.3.	Provision to register the SOCIETY by assigning a unique code and store the relevant information regarding the SOCIETY.
1.10.4.	Ability to map the SOCIETY to a registered BMC or CC
1.10.5.	Ability define the payment detail and cycle for particular Pourer
1.11.	**Milk Movement**
1.11.1.	Provision to intimate BMC/CC, the location and quantity where the milk has to be dispatched by

S. No.	Functional Requirement
	uploading the information into the central system or sending the SMS on the defined phone number
1.11.2.	Ability to access/download the reports generated by the MIS dept.
1.11.3.	Ability to notify the assigned authority in case the calibrations are not performed as per the defined schedule/rule
1.12.	**Data Transfer**
1.12.1.	The software system at CC/BMC Level should be able to work in online or offline mode and upload data to the central server
1.12.2.	Ability to synchronize with the central server as per the defined periodicity. System should have the provision to define the rules and the frequency of the synchronization.
Functionalities at HO/District Union level	
1.13.	**Defining organization hierarchy**
1.13.1.	Ability to define the business and administrative hierarchy like head office, BMC, CC, society and Pourers
1.13.2.	Provision to access the data at user level for various business hierarchy based on roles like administrator, creator, viewer or no access
1.14.	**Price Update**
1.14.1.	Ability to prepare the price change intimation sheet by inputting the revised price
1.14.2.	Ability for price update to happen through workflow defined in system. Provision for relevant business head to approve the price change
1.14.3.	Ability to upload the revised price chart in the central server to be replicated in the system at SOCIETY level
1.15.	**Tagging Cans**
1.15.1.	Ability to carry out the unique codification of assets and update the asset unique codes in the central system at the time of purchase
1.16.	**Data Management**
1.16.1.	The software system at HO/District Union should be able to work in online mode with central server
1.16.2.	Ability to store and backup all transactional data at central server at regular interval
1.16.3.	Ability to monitor status of data synchronization from off-site locations such as SOCIETY/BMC/CC etc. with the central server as per the defined periodicity.
1.16.4.	Central system should have the provision to monitor any data synchronization error and reconcile those.

9.2. Production

9.2.1. Production Process (Milk)

9.2.1.1. Process Map

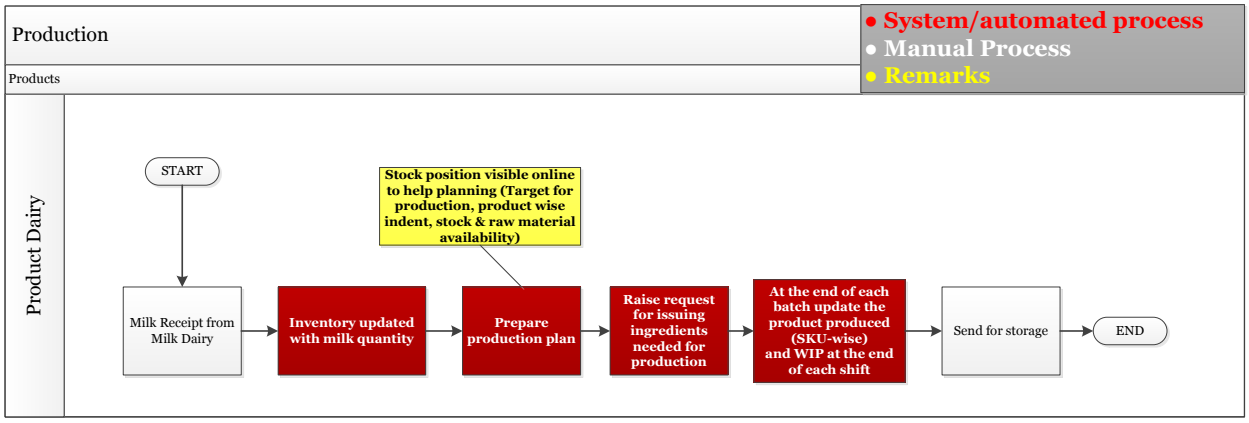

Production
Milk Production
System/automated process
Manual Process
Remarks
Federation Dairy
START
Milk Receipt at the gate
Approved vehicle?
NO
YES
Accept/Reject
Accept
Reject
END
On approval by Quality (after sample testing) inventory updated with milk quantity
Stock position visible online to help planning (Target for production, milk indents, receipts, butter, SMP available). With these details System would provide an optimal indicative Daily Production plan; the Production Manager , with the help of the indicative plan given by system can freeze the final Daily Production Plan. In case of any changes, he has to record the reasons for the same.
Prepare daily production plan
Raise request for issuing ingredients needed for production
At the end of each shift update the milk produced for each type of milk
At the end of each shift update the milk packed for each type of milk
Enter the butter & SMP consumption and film consumption at the end of each shift
District Union (FBD)
START
PP.01
Stock position visible online to help planning (Target for production, milk indents, receipts, butter, SMP available)
Provision for local sales, transfer to metro dairies and conversion
Prepare production plan
Raise request for issuing ingredients needed for production
At the end of each shift/ batch update the milk produced for each type of milk
At the end of each shift/ batch update the milk packed for each type of milk
Enter the butter & SMP consumption and film consumption and related packing materials at the end of each shift/ batch
END
In case of Butter, SMP,Ghee SKU wise details to be maintained in the system In the case of ghee stock consumed from FG (Butter) may also be entered

9.2.1.2. *Process Description*

Sl. No.	Activity	Process Owner
1	When milk is received at the gate, personnel at the gate checks if it is an approved vehicle. If not an approved vehicle, decision is made by Competent Authority whether to accept or reject the milk.	Personnel at the gate Competent Authority to accept/ reject the milk to be defined
2	On approval by Quality (after sample testing) inventory updated with milk quantity	Quality section In charge at Union Dairy/ Federation Dairy
3	Prepare daily production plan. Stock position visible online to help planning (Target for production, milk indents, receipts, butter, SMP available). With these details System would provide an optimal indicative Daily Production plan; the Production Manager, with the help of the indicative plan given by system can freeze the final Daily Production Plan. In case of any changes, he has to record the reasons for the same. In case of Feeder Balancing Dairy, Stock position visible online to help planning (Target for production, milk indents, receipts, butter, SMP available). Make provision for local sales, transfer to metro dairies and conversion	Production section In charge at Union Dairy/ Federation Dairy
4	Raise request for issuing ingredients needed for production.	Production section in charge at Union Dairy/ Federation Dairy
5	At the end of each shift update the milk produced for each type of milk. At the end of each shift update the milk packed for each type of milk. Enter the butter & SMP consumption and related packing material at the end of each shift/ batch. In case of Butter, SMP,Ghee SKU wise details to be maintained in the system In the case of ghee stock consumed from FG (Butter) may also be entered	Production section in charge at Union Dairy/ Federation Dairy

9.2.2. Production Process (Milk Products)

9.2.2.1. Process Map

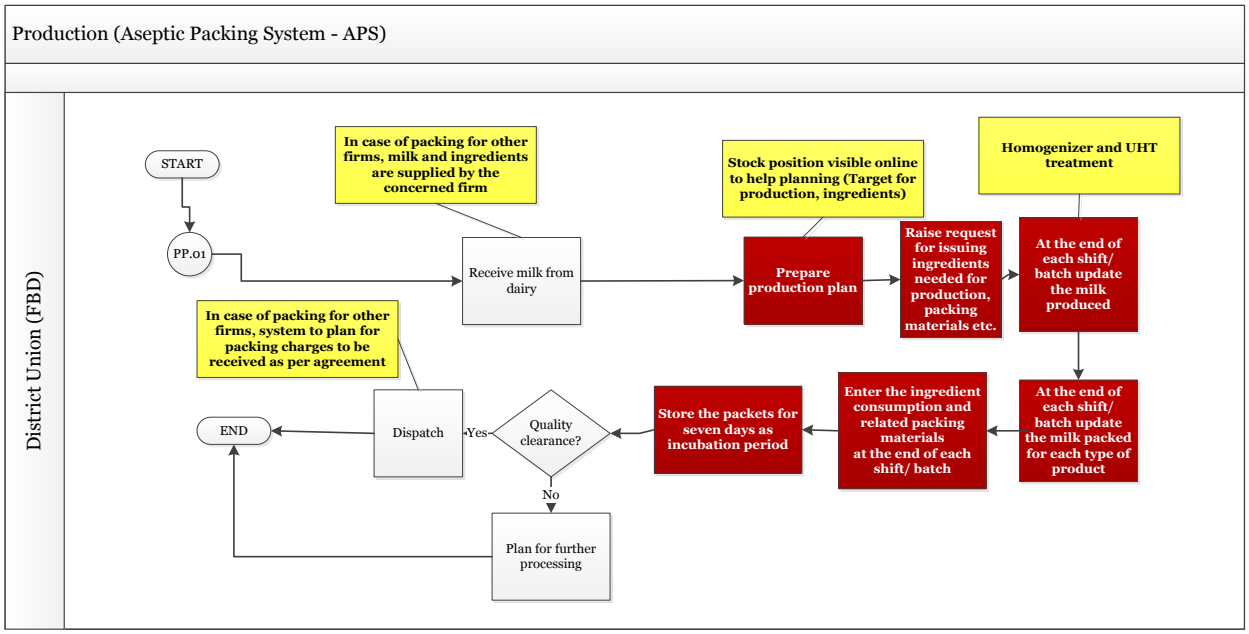

Production
Products
• System/automated process
• Manual Process
• Remarks
Product Dairy
START
Stock position visible online to help planning (Target for production, product wise indent, stock & raw material availability)
Milk Receipt from Milk Dairy
Inventory updated with milk quantity
Prepare production plan
Raise request for issuing ingredients needed for production
At the end of each batch update the product produced (SKU-wise) and WIP at the end of each shift
Send for storage
END

9.2.2.2. Process Description

Sl. No.	Activity	Process Owner
1	Milk Receipt from Milk Dairy.	Personnel at the gate at Product Dairy
2	On acceptance, inventory updated with milk quantity. Prepare production plan. Stock position visible online to help planning (Target for production, product wise indent, stock & raw material availability).	Production section in charge at Product Dairy
3	Raise request for issuing ingredients needed for production. At the end of each batch update the product produced (SKU-wise) and WIP at the end of each shift and send the finished goods for storage	Production section in charge at Product Dairy

9.2.3. Production Process (APS)

9.2.3.1. Process Map

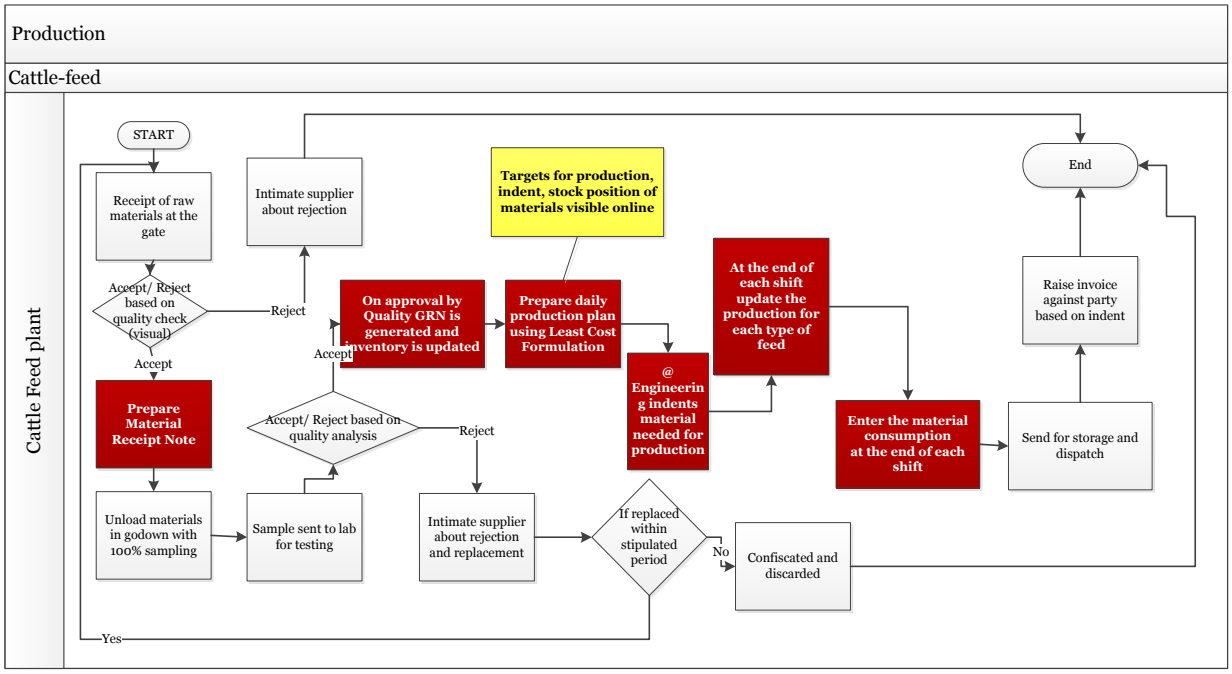

Production (Aseptic Packing System - APS)
District Union (FBD)
START
PP.01
In case of packing for other firms, milk and ingredients are supplied by the concerned firm
Receive milk from dairy
Stock position visible online to help planning (Target for production, ingredients)
Prepare production plan
Raise request for issuing ingredients needed for production, packing materials etc.
Homogenizer and UHT treatment
At the end of each shift/ batch update the milk produced
At the end of each shift/ batch update the milk packed for each type of product
Enter the ingredient consumption and related packing materials at the end of each shift/ batch
Store the packets for seven days as incubation period
Quality clearance?
Yes
No
Dispatch
END
In case of packing for other firms, system to plan for packing charges to be received as per agreement
Plan for further processing

9.2.3.2. Process Description

Sl. No.	Activity	Process Owner
1	Receive milk from dairy. Stock levels of ingredients needed for production visible online In case of packing for other firms, milk and ingredients are supplied by the concerned firm	Production section in charge at Salem Union
2	Prepare production plan. Stock position visible online to help planning (Target for production, ingredients). Raise request for issuing ingredients needed for production, packing materials etc.	Production section in charge at Salem Union
3	At the end of each shift/ batch update the milk produced. At the end of each shift/ batch update the milk packed for each type of product. Enter the ingredient consumption and related packing materials at the end of each shift/ batch.	Production section in charge at Salem Union
4	After storing for seven days as incubation period, it is checked for quality clearance. If not cleared, it is planned for further processing. If cleared, the packets are dispatched. In case of packing for other firms, system to plan for packing charges to be received as per agreement	Quality section in charge at Salem Union

9.2.4. Production Process (Cattle feed)

9.2.4.1. Process Map


Production
Cattle-feed
Cattle Feed plant
START
Receipt of raw materials at the gate
Accept/ Reject based on quality check (visual)
Reject
Accept
Intimate supplier about rejection
Prepare Material Receipt Note
Unload materials in godown with 100% sampling
Sample sent to lab for testing
Accept/ Reject based on quality analysis
Reject
Intimate supplier about rejection and replacement
If replaced within stipulated period
No
Confiscated and discarded
Yes
On approval by Quality GRN is generated and inventory is updated
Targets for production, indent, stock position of materials visible online
Prepare daily production plan using Least Cost Formulation
@ Engineering indents material needed for production
At the end of each shift update the production for each type of feed
Enter the material consumption at the end of each shift
Send for storage and dispatch
Raise invoice against party based on indent
End

9.2.4.2. Process Description

Sl. No.	Activity	Process Owner
1	Receipt of raw materials at the gate.	Personnel at the gate at cattle feed plant in Erode Union
2	Visual check carried out and if rejected, the supplier is intimated about the same. If accepted, Material Receipt Note is prepared. Unload materials in godown with 100% sampling and sample is sent to the lab for testing.	Quality section in charge at cattle feed plant in Erode Union
3	After tests if the material is rejected, the supplier is intimated about rejection and replacement. If replaced, the inwarding and other subsequent processes are carried out. If the material is not replaced within stipulated time, they are confiscated and discarded. After tests if the material is accepted, GRN is generated and the inventory for the material is updated.	Quality section in charge at cattle feed plant in Erode Union
4	Prepare daily production plan using Least Cost Formulation. Targets for production, indent, stock position of materials visible online. Engineering section indents material needed for production	Production section in charge at cattle feed plant in Erode Union
5	At the end of each shift user updates the production for each type of feed and also enters the material consumption at the end of each shift. Send for storage and dispatch.	Production section in charge at cattle feed plant in Erode Union
6	At the time of dispatch raise invoice against party based on indent.	Finance section in charge at Erode Union

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Functionalities in Production module	
Production section at union/metro dairies performs activities related to manufacturing of milk and milk products. The following are the list of functionalities to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS: • Receipt of Milk i.e. Mixed Milk (MM) and SSM • Weighment of Milk on weigh bridges • Checking of the Quality of Milk for Fat Content %age, SNF content %age, Lacto meter and Temperature readings • Processing of Raw Milk to create finished goods viz. (Double Toned Milk, Pasteurized Toned Milk, Standardized Milk, Full Cream milk etc.) • Maintenance of production and disposal accounts The product Dairy engages in performing the following activities for manufacturing of Milk products: • Milk processing, recipes management, ingredients procurements viz. sugar, essence etc. • Manage and control inventory of raw materials needed for milk product manufacturing • The Products are stored at the godown at Ambattur and distributed to the retail outlets based on the indents sent by the marketing department • This product Dairy also caters to the needs for functions and festival orders by booking Special Orders	
2.1.	**Production Planning**
2.1.1.	Provision to support the flexible organization of multiple sites
2.1.2.	Ability to map the system in such a manner as to support multi-level as well as multi-site planning and organizing
2.1.3.	Provision to maintain master production schedule in the system
2.1.4.	Ability to carry out material requirement planning in the system with provision for milk taken for re-processing in case of leakage or any other issue
2.1.5.	Provision to provide the functionality of product costing interfaces
2.1.6.	Ability to provide the production cost controlling interfaces.
2.1.7.	Ability to define the quantity of all outputs including co-products, by-products, wastes recycles and reprocessing of quality deficient products along with provision to define user defined formulas for scaling up the quantities of the input ingredients and output quantities
2.1.8.	Ability to define products with varying active ingredients and their percentage.
2.1.9.	Ability to handle by-product management and generate reports on by-product treatment (e.g. sales of by-product, wastages etc)
2.1.10.	Ability of by-products costing feature to allow percentage cost distribution at the manufacturing stage, and/or NRV (Net realization value) including a facility for attaching negative NRV to reflect the ongoing cost of waste management
2.1.11.	Ability to provide the user control over the sequencing in planning by item as well as by process model
2.1.12.	Provision for batch scheduling feature in the system
2.1.13.	Capacity Requirement planning feature required in the system in order to take into consideration the plant capacity for manufacture of various products
2.1.14.	Provision for capacity optimization required in the system. Planning to take care of product and by-product demand while scheduling for capacity

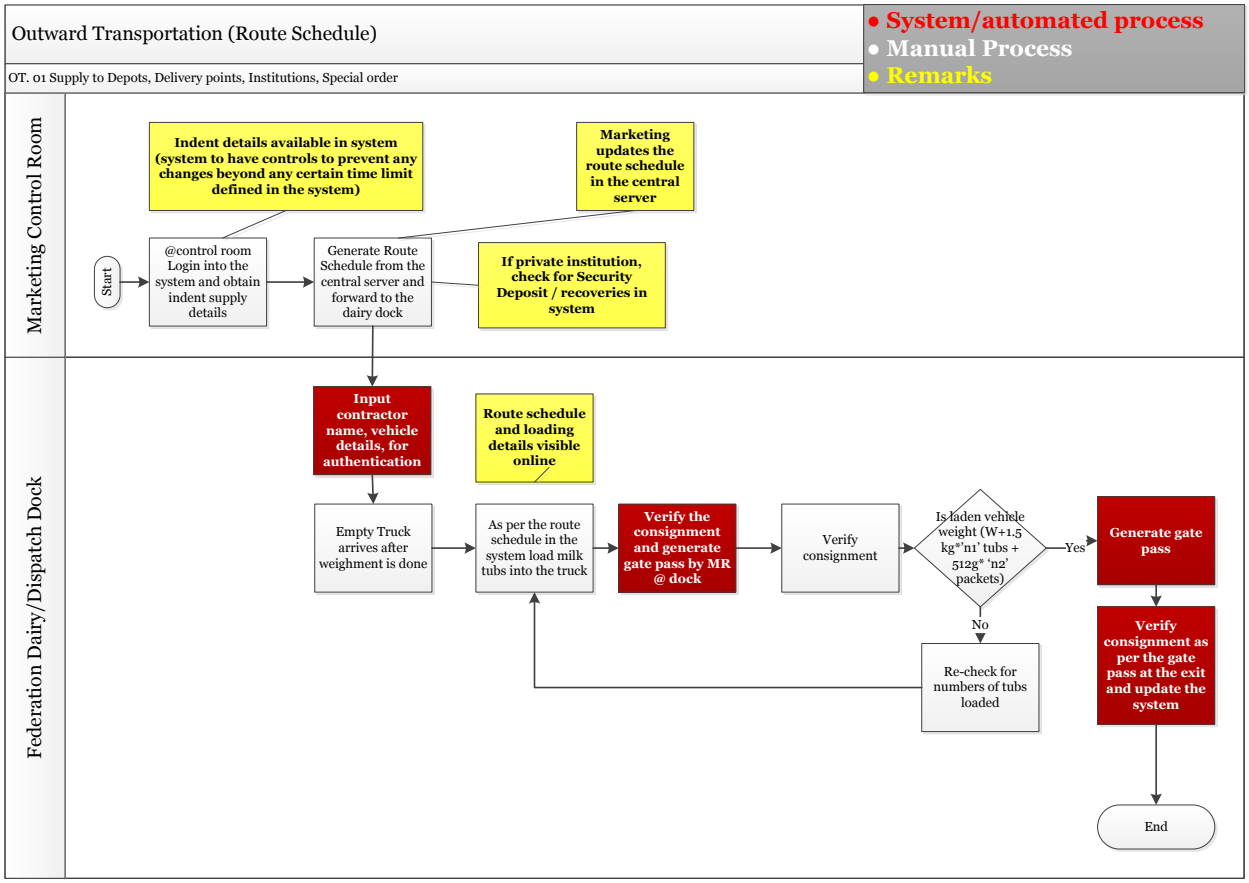
S. No.	Functional Requirement
2.1.15.	Functionality required in the system for productivity calculations (Labor, machinery, materials)
2.1.16.	Provision for analysis & monitoring of loss of production in the system
2.1.17.	Provision for cost estimation in the system in order to capture and control the actual costs
2.1.18.	Provision for overhead cost allocations to be made in the system
2.1.19.	Ability to maintain accurate scheduling criteria with definition of set-up, clean up and changeover times with usage/utilization analyses
2.1.20.	Ability of the system to create the flexible costing set-ups for variety of products.
2.1.21.	Ability to handle the details of the cost estimations so as to reflect the projected volumes of different processes producing the same end items
2.1.22.	Provision for lot and location control facility to be made available in the system
2.1.23.	Provision to define KPIs at production planning level for various functions involved (example productivity)
2.1.24.	Ability to handle the raw milk and conserved commodities receipt at dairy including tanker registration, arrival time, supplier details, FAT & SNF details and type of milk / conserved commodities etc.
2.1.25.	Ability to create receipt through the system and made available to quality control lab and production department online
2.1.26.	Ability to carry quality control test online
2.1.27.	Ability to carry out aggregate material balancing. Note: Different milk / conserved commodities contents (FAT & SNF) is received from different federation/sources and it is required to consolidate the FAT & SNF on an overall basis in order to plan product/commodities to be manufactured
2.1.28.	Ability to prioritize liquid milk production over other products and commodities
2.1.29.	Ability to generate the statement of milk / conserved commodities procured with details such as supplier name, tanker number, milk type, quantity, FAT, SNF, tanker level etc.
2.1.30.	Provision for dispatch data to be made available online
2.1.31.	Provision for details of total route returns in a day with reasons thereof to be made available online to all concerned
2.1.32.	Provision for return milk quality checks to be made available online to all concerned including booths/retail outlets
2.1.33.	Provision for relevant quality documentation to be made available to the concerned as per the requirement
2.2.	**Milk Products**
2.2.1.	Provision for SKU-wise sales projection to be made available for production planning and the same to be generated on monthly, weekly, daily basis for a year in the system
2.2.2.	Ability to auto generate the procurement indent and schedule based on existing stock, current procurement schedule and variance from previous procurement cycle
2.2.3.	Provision for quarterly rolling plan split into weeks to be made available online
2.2.4.	Ability to create the SKU-wise production plan based on the sales plan received with details such as SKU code, description, tubs required, quantity etc.
2.2.5.	Ability to create loading schedules day-wise based on plant capacity, production plan and stock in hand
2.2.6.	Provision for SKU-wise cost and resource planning required in the system
2.2.7.	Provision for auto generation of store requisitions based on production schedule required in the system
2.2.8.	Ability to integrate the bar coding feature for material management in order to facilitate materials management and stock count
2.2.9.	Ability to handle new product (SKU) introduction requirements.

S. No.	Functional Requirement
2.2.10.	Provision for overall equipment efficiency of production line to be made available online for monitoring equipment performance
2.2.11.	Provision in the system for supplier collaboration to track outsourced production
2.2.12.	Provision for job work gate pass records indicating inward and outward material movements to be made available in the system
2.2.13.	Manage production requirements with integration for specialized machines like PLC's (Sholinganallur Dairy) and APS in Salem Dairy (wherever feasible)
2.2.14.	Ability to prepare the yearly projections based on sales plan received on a month, weekly, daily basis
2.2.15.	Ability to capture the data relating to the plant-wise allocation of production to packaging stations/units/outsourced units
2.2.16.	Ability to prepare the budgets online based on the sales projections
2.2.17.	Provision to create indents on packaging stations/units/outsourced units and made available on line
2.2.18.	Provision for forecast to be made available based on the raw material availability
2.2.19.	Provision for in-process inspection results to be made available to production department to arrive at commodities requirement
2.2.20.	Ability to record the past trends to forecast the quantity to be packed on the next day variant-wise
2.2.21.	Ability to provide route-wise loading schedule
2.2.22.	Ability to monitor deviations in dispatch time vs. schedule and quantity vs indent to be made available online
2.2.23.	Provision for online tub management account required in the system
2.2.24.	Ability to provide online information relating to route-wise, date-wise dispatch Vs received tubs on monthly basis
2.2.25.	Ability to provide cumulative periodic tub account and transporter-wise cumulative statement.
2.2.26.	Ability to define the tub reorder level at item level, location level, company level.
2.2.27.	Ability to monitor tub in transit.
2.2.28.	Ability to provide the online information regarding commodities consumed.
2.2.29.	Provision for shelf life analysis product-wise and batch-wise to be made available online
2.2.30.	Ability to provide the information regarding the performance of packing machines, quality rate of packing machine and thus overall efficiency of machines
2.2.31.	Provision in the system for online stock transfer and transfer of product as per the transfer prices defined for every product or its variant
2.2.32.	Provision for batch rejection details to be made available online
2.2.33.	
2.2.34.	
2.2.35.	Provision for online dispatch schedule to be made available in the system
2.2.36.	Provision to define transfer prices in the system
2.2.37.	Ability to verify quantity, price, tax data at the time of creating the goods receipt document
2.2.38.	Provision for capturing of packing machine counter reading in production receipt transaction
2.2.39.	Ability to monitor product-wise production losses in terms of characteristics

9.3. Transportation

9.3.1. Dispatch of milk from Dairy (Route Schedule)

9.3.1.1. Process Map


Outward Transportation (Route Schedule)
OT. 01 Supply to Depots, Delivery points, Institutions, Special order
System/automated process
Manual Process
Remarks
Marketing Control Room
Federation Dairy/Dispatch Dock
Indent details available in system (system to have controls to prevent any changes beyond any certain time limit defined in the system)
Marketing updates the route schedule in the central server
Start
@control room Login into the system and obtain indent supply details
Generate Route Schedule from the central server and forward to the dairy dock
If private institution, check for Security Deposit / recoveries in system
Input contractor name, vehicle details, for authentication
Route schedule and loading details visible online
Empty Truck arrives after weighment is done
As per the route schedule in the system load milk tubs into the truck
Verify the consignment and generate gate pass by MR @ dock
Verify consignment
Is laden vehicle weight (W+1.5 kg*'n1' tubs + 512g* 'n2' packets)
Yes
No
Generate gate pass
Verify consignment as per the gate pass at the exit and update the system
Re-check for numbers of tubs loaded
End

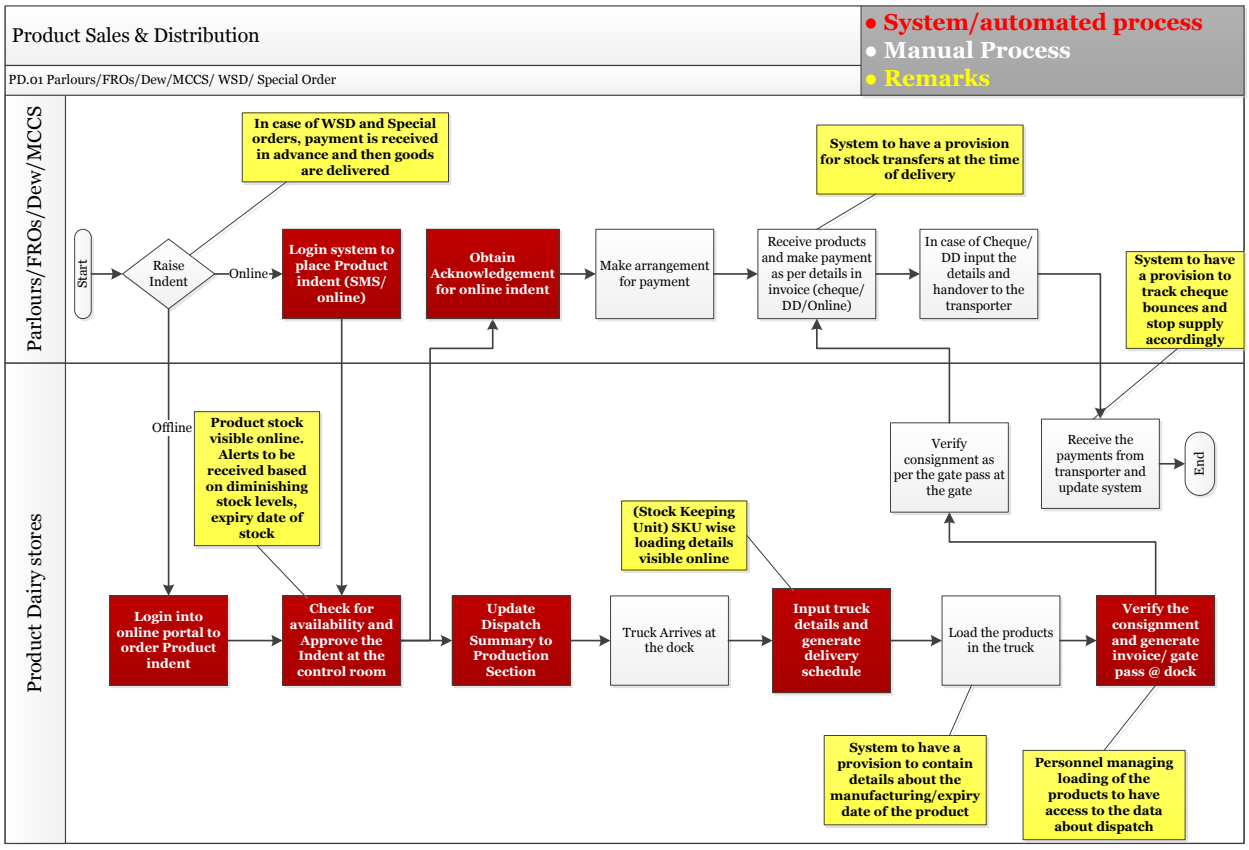
9.3.1.2. Process Description

Sl. No.	Activity	Process Owner
1	Control room personnel log in to the system and obtain indent supply details. Indent details available in system (system to have controls to prevent any changes beyond any certain time limit defined in the system)	Marketing Control Room in charge at Dairy
2	Route Schedule (including the number of tubs per destination) is generated from the central server and forward to the dairy dock. Marketing department updates the route schedule in the central server. In case of private institutions, personnel checks for Security Deposit / recoveries in system. Entire transaction history to be available in the system.	Marketing Control Room in charge at Dairy
3	On arrival of the tanker, input contractor name and vehicle details for authentication. Empty truck arrives at the loading dock at the Dairy.	Marketing Control Room in charge at Dairy
4	Load the milk tubs into the vehicle based on the route schedule. The aforementioned route schedule and loading details visible online.	Marketing Control Room in charge at Dairy
5	Verify the consignment and generate gate pass for allowing vehicle to leave the dock	MR at the dock
6	If laden vehicle weight (W+1.5 kg*'n1' tubs + 512g* 'n2' packets) has any discrepancy then re-check for numbers of	MR at the dock

	tubs loaded. If laden vehicle weight is as per calculation (by the system), gate pass is generated.	
7	Verify consignment as per the gate pass at the exit and update the system	Personnel at the gate
8	Collect dispatch note from CC/BMC and transport the milk to the union/federation dairy	Transporter Union/Fed./Pvt. Tanker (does not have system login)

9.3.2. *Dispatch of products from Dairy*

9.3.2.1. *Process Map*


Product Sales & Distribution
PD.01 Parlours/FROs/Dew/MCCS/ WSD/ Special Order
• System/automated process
• Manual Process
• Remarks
Parlours/FROs/Dew/MCCS
Product Dairy stores
In case of WSD and Special orders, payment is received in advance and then goods are delivered
System to have a provision for stock transfers at the time of delivery
Start
Raise Indent
Online
Offline
Login system to place Product indent (SMS/ online)
Obtain Acknowledgement for online indent
Make arrangement for payment
Receive products and make payment as per details in invoice (cheque/ DD/Online)
In case of Cheque/ DD input the details and handover to the transporter
System to have a provision to track cheque bounces and stop supply accordingly
Product stock visible online. Alerts to be received based on diminishing stock levels, expiry date of stock
Verify consignment as per the gate pass at the gate
Receive the payments from transporter and update system
End
(Stock Keeping Unit) SKU wise loading details visible online
Login into online portal to order Product indent
Check for availability and Approve the Indent at the control room
Update Dispatch Summary to Production Section
Truck Arrives at the dock
Input truck details and generate delivery schedule
Load the products in the truck
Verify the consignment and generate invoice/ gate pass @ dock
System to have a provision to contain details about the manufacturing/expiry date of the product
Personnel managing loading of the products to have access to the data about dispatch

9.3.2.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Indent is raised. In case of WSD and Special orders, payment is received in advance and then goods are delivered. If indent is raised online, login system to place Product indents (SMS/online). Make arrangement for payment. Receive products and make payment as per details in invoice (cheque/DD/Online). System to have a provision for stock transfers at the time of delivery. In case of Cheque/DD input the details and handover to the transporter. Acknowledgement is received from Aavin on receipt of payment. If indent is raised offline, login into online portal to order Product indent.	In charge at Parlours/FROs/Dew/MCCS In charge at Marketing Control Room at Products Dairy
2	Check for availability and Approve the Indent at the control room. Indenter receives acknowledgement for online indent. Update Dispatch Summary to Production Section.	In charge at Marketing Control Room at Products Dairy
3	Truck Arrives at the dock in Product Dairy. Input truck details and generate delivery schedule. (Stock Keeping Unit) SKU wise loading details visible online. System to have a provision to contain details about the manufacturing/expiry date of the product	In charge at Marketing Control Room at Products Dairy
4	Load the products in the truck.	Personnel at the loading dock at Products Dairy
5	Verify the consignment. If products loaded match the delivery schedule, generate invoice/ gate pass. If not, send to the dock for re-checking.	MR at the loading dock at Products Dairy
6	Verify the gate pass and the consignment at the gate and if fine, approve the vehicle to exit the premises	Personnel at the gate at Products Dairy
7	Receive products and make payment as per details in invoice (cheque/DD/Online). System to have a provision for stock transfers at the time of delivery. In case of Cheque/DD input the details and handover to the transporter. Receive the payments from transporter and update system. System to have a provision to track cheque bounces and stop supply accordingly.	In charge at Marketing Control Room at Products Dairy

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Functionalities at Society level	
3.1.	**Milk Collection and Dispatch**
3.1.1.	Provision to record Inward transporter's time of arrival & departure
3.1.2.	The software system should interface with GPS tracking device in the milk vehicle.
3.1.3.	Provision should be kept to record any deviations in routes and KM travelled by the transporter
3.1.4.	Provision to track the arrival and departure time of milk vans.
3.1.5.	Provision to record information temporarily in offline mode and then uploading the data to central server
3.1.6.	Provision to send and receive SMS/email from the vendors regarding changes/ discrepancies etc. and raise the alert to the concerned employee to intimate regarding the same.
Functionalities at /CC/BMC level	
3.2.	**Inward Transporter Registration**
3.2.1.	Provision to upload details of applications received and contract details from transporters
3.2.2.	Feature to upload key transporter and approved vehicle details after the transporter and vehicle is finalized in the central system which is accessible at Federation/Union -Vehicle papers -Security Deposit details like Amount, DD no. -PAN Card no. -Bank A/c no.
3.2.3.	Provision to view details of relevant transporter as updated by Federation/Union
3.2.4.	Provision to inform concerned societies about the new transporter along with additional details
3.3.	**Outward Transporter Registration**
3.3.1.	Provision to view details of relevant transporter as updated by Federation/Union
3.4.	**Route Mapping of Inward Transporter**
3.4.1.	Provision to create high-resolution route maps of villages along with the collection order of milk from Societies on GIS maps
3.4.2.	Ability to create the most optimized route for a given set of coordinates and milk collection order along with scheduled collection time at each centre
3.4.3.	Provision to forward drafts of route map for verification and finalization at federation/Union
3.4.4.	Provision to take prints of approved route maps along with scheduled collection timings to be shared with concerned societies
3.5.	**Route Mapping of Outward Transporter**
3.5.1.	Provision to view finalized Outward route map along with scheduled collection timings
3.6.	**Verification of Dispatch of Inward Transporter**
3.6.1.	Provision to verify bill details like distance travelled, quantity of milk transported and billed amount against route plan, vehicle dispatch report and transportation rates respectively, automatically as well as manually
3.6.2.	Provision to raise flags corresponding to defaults occurring in the form of Fat/SNF loss or delayed delivery.
3.6.3.	Provision to calculate deductions depending on the permissible limits as configured in the system
3.6.4.	Provision to create a compiled report of all defaults along with deductions as applicable
3.6.5.	Provision to send verified bills along with applicable deductions to Federation/Union for

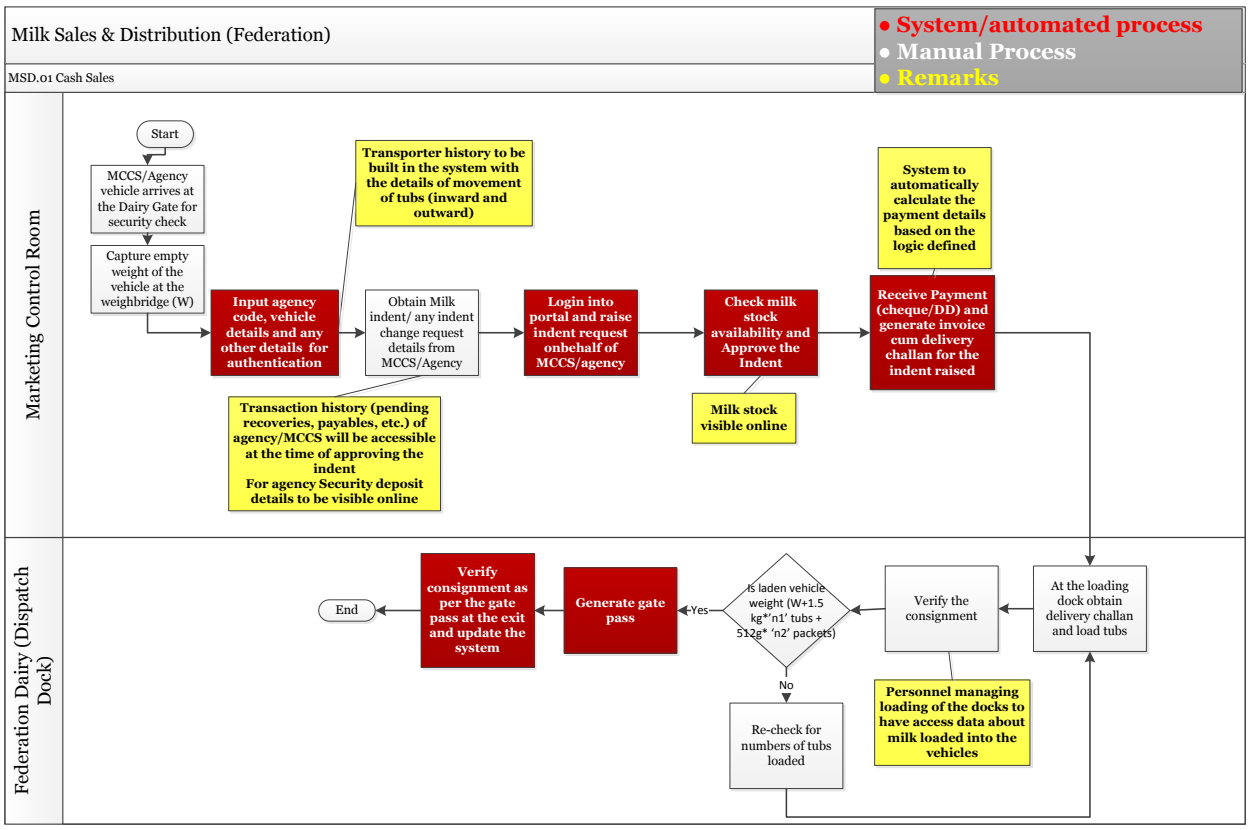
S. No.	Functional Requirement
	processing
3.7.	**Milk Collection and Dispatch**
3.7.1.	Provision for recording inward transporter's time of arrival of the transporter at the destination and upload the same in the central system
3.7.2.	Provision for updating tanker's arrival and dispatch detail in the central system including timings, quantity of milk, tanker seal no. and destination
3.7.3.	Provision for uploading quality test reports of tanker in the system
3.7.4.	Provision to capture details of delayed delivery or shortages along with date and transporter details and upload the same in the central system
3.7.5.	Provision to send and receive SMS/email from the vendors and raise the alert to the concerned employee to intimate regarding the same.
Functionalities at Federation/Union Level	
3.8.	**Transporter Registration**
3.8.1.	Provision to configure the list of mandatory documents required (like PAN Card and Bank A/c details) for inward transporter registration
3.8.2.	Provision to upload details of applications received from transporters
3.8.3.	Ability to store key details of agreement with transporter after signing of agreement along with contracted rates, toll charges and recoverable dues
3.8.4.	Provision to map a registered transporter to a route and also have the ability to dynamically change the route based on workflow defined in system
3.8.5.	Provision to create an 'Transporter Payment file' with the following key details, using data stored in the central system: -Name of Route -Name of transporter -Route No. -Vehicle no. -PAN Card no. -Bank A/c no.
3.9.	**Route mapping of Transporter**
3.9.1.	Ability to integrate with the bundled software packaged with GPS device to acquire real time location data and prepare a timesheet of every tanker
3.9.2.	Provision to utilise standard GIS maps for creating optimized route maps based on details like kilometres, tanker capacity, dispatch quantity required, points to be serviced etc.
3.9.3.	Provision to update demand from each dairy and modify source-destination combination in the system based on the modified data
3.9.4.	Provision for constant GPS feed required in order to suggest alternative routes in case of traffic jams or road blockage
3.10.	**Milk Dispatch to Dairy**
3.10.1.	Provision for updating tanker's arrival and dispatch detail in the central system including timings, quantity of milk, tanker seal no. and destination dairy
3.10.2.	Provision for uploading quality test reports of tanker in the system
3.10.3.	Provision to send and receive SMS/email from the vendors and raise the alert to the concerned to intimate regarding the same.
3.11.	**Dispatch verification of Inward Transporter**
3.11.1.	Provision to configure parameters like permissible limits of Fat/SNF loss, time delay and rates as agreed during registration
3.11.2.	Feature to view reports generated at various CCs mentioning defaults and deductions
3.11.3.	Ability to impose penalty for any kind of pilferage or manipulation by transporter
3.11.4.	Provision to view and approve verified invoices received from CC after reviewing applicable deductions appended to the bill

S. No.	Functional Requirement
3.11.5.	Provision to update Transporter Payment File with payment details and forward the same to Finance & Accounts for payments
3.12.	**Dispatch Verification of Outward Transporter**
3.12.1.	Provision to configure parameters like permissible limits of Fat/SNF loss, time delay and rates as agreed during registration
3.12.2.	Provision to verify dispatch details like distance travelled, quantity of milk transported and billed amount against route plan, vehicle dispatch report and transportation rates respectively, automatically as well as manually
3.12.3.	Provision to raise flags corresponding to defaults occurring in the form of Fat/SNF loss or delayed delivery.
3.12.4.	Provision to calculate deductions depending on the permissible limits as configured in the system
3.12.5.	Ability to impose penalty for any kind of pilferage or manipulation by transporter
3.12.6.	Provision to approve verified bills in the system after reviewing applicable deductions appended to the bill
3.12.7.	Provision to update Transporter Payment File with payment details and forward the same to Finance & Accounts for payments
3.13.	**Fleet Management**
3.13.1.	Ability to keep track of the different types and capacities of vehicles and their conditions owned by the Federation
3.13.2.	Ability to keep track of the purchase date, make, last date of service etc. about the vehicles
3.13.3.	Ability to update the Fitness Certificate (FC), insurance policy details and vehicle tax details in the system
3.13.4.	Ability to track the insurance claims
3.13.5.	Ability to keep track of the service requirements, replaced parts about the vehicles
3.13.6.	Ability to assign and edit the vehicles to the specific routes as per monthly/ daily route plan
3.13.7.	Ability to track the tanker movement in the system
3.13.8.	Ability to track the issuance of diesel for the vehicles (internal and external)
3.13.9.	Ability to maintain details of vehicle breakdown and the reasons
3.13.10.	Ability to make informed decisions based on intelligent reports from the system about the pattern of breakdown of the vehicles and the service requirements
3.13.11.	Ability to track the cost of repair (man + material) for the vehicles
3.13.12.	Ability to monitor the fuel efficiency of the vehicle and generate reports required
3.13.13.	Ability to define the parameters for condemnation of vehicle/ assets
3.13.14.	Ability to track the on-road off-road status of each vehicle and generate reports required
3.13.15.	Ability to generate vehicle performance report (name of vehicle, number of repairs carried out, expenses incurred including fuel and lubricants etc.) giving cost per kilometre operated
3.13.16.	Ability to prepare the route plan in the system
3.13.17.	Ability to view the trip sheet in the system
3.13.18.	Ability to track the tyre and battery with the number and associated maintenance
3.14.	**Purchase of spares, tyres, plates, batteries, tools etc. (covered under the FRS points under Purchase)**

9.4. Marketing

9.4.1. Manage Cash Sales

9.4.1.1. Process Map


Milk Sales & Distribution (Federation)
MSD.01 Cash Sales
System/automated process
Manual Process
Remarks
Marketing Control Room
Federation Dairy (Dispatch Dock)
Start
MCCS/Agency vehicle arrives at the Dairy Gate for security check
Capture empty weight of the vehicle at the weighbridge (W)
Input agency code, vehicle details and any other details for authentication
Transporter history to be built in the system with the details of movement of tubs (inward and outward)
Obtain Milk indent/ any indent change request details from MCCS/Agency
Transaction history (pending recoveries, payables, etc.) of agency/MCCS will be accessible at the time of approving the indent
For agency Security deposit details to be visible online
Login into portal and raise indent request onbehalf of MCCS/agency
Check milk stock availability and Approve the Indent
Milk stock visible online
System to automatically calculate the payment details based on the logic defined
Receive Payment (cheque/DD) and generate invoice cum delivery challan for the indent raised
At the loading dock obtain delivery challan and load tubs
Verify the consignment
Personnel managing loading of the docks to have access data about milk loaded into the vehicles
Is laden vehicle weight (W+1.5 kg*'n1' tubs + 512g* 'n2' packets)
Yes
No
Re-check for numbers of tubs loaded
Generate gate pass
Verify consignment as per the gate pass at the exit and update the system
End

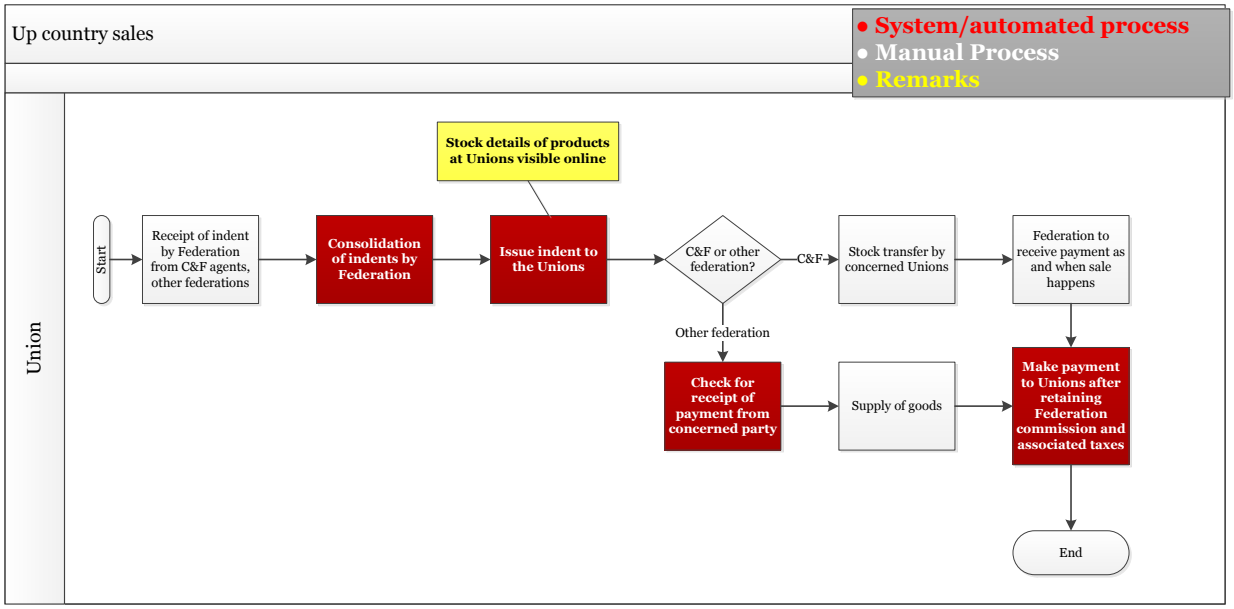
9.4.1.2. Process Description

Sl. No.	Activity	Process Owner
1	MCCS/Agency vehicle arrives at the Dairy Gate for security check. Capture empty weight of the vehicle at the weighbridge (W).	Personnel at the gate at Federation Dairy
2	Input agency code, vehicle details and any other details for authentication. Transporter history to be built in the system with the details of movement of tubs (inward and outward). Obtain Milk indent/ any indent change request details from MCCS/Agency. Transaction history (pending recoveries, payables, etc.) of agency/MCCS will be accessible at the time of approving the indent For agency Security deposit details to be visible online	Marketing Control Room In charge at Federation Dairy
3	Login into portal and raise indent request on behalf of MCCS/agency. Check milk stock availability and Approve the Indent. Milk stock visible online. Receive Payment (cheque/DD) and generate invoice cum delivery challan for the indent raised. System to automatically calculate the	Marketing Control Room In charge at Federation Dairy

	payment details based on the logic defined	
4	At the loading dock obtain delivery challan and load tubs. Verify the consignment. Personnel managing loading of the docks to have access data about milk loaded into the vehicles. Check if laden vehicle weight (W+1.5 kg*'n1' tubs + 512g* 'n2' packets. If not, then re-check the number of tubs loaded and again verify the consignment.	In charge at Dispatch Dock at Federation Dairy
5	If the laden weight is as per calculation, generate gate pass through the system.	In charge at Dispatch Dock at Federation Dairy
6	Verify consignment as per the gate pass at the exit and update the system.	Personnel at the gate at Federation Dairy

9.4.2. Manage Up country sales

9.4.2.1. Process Map

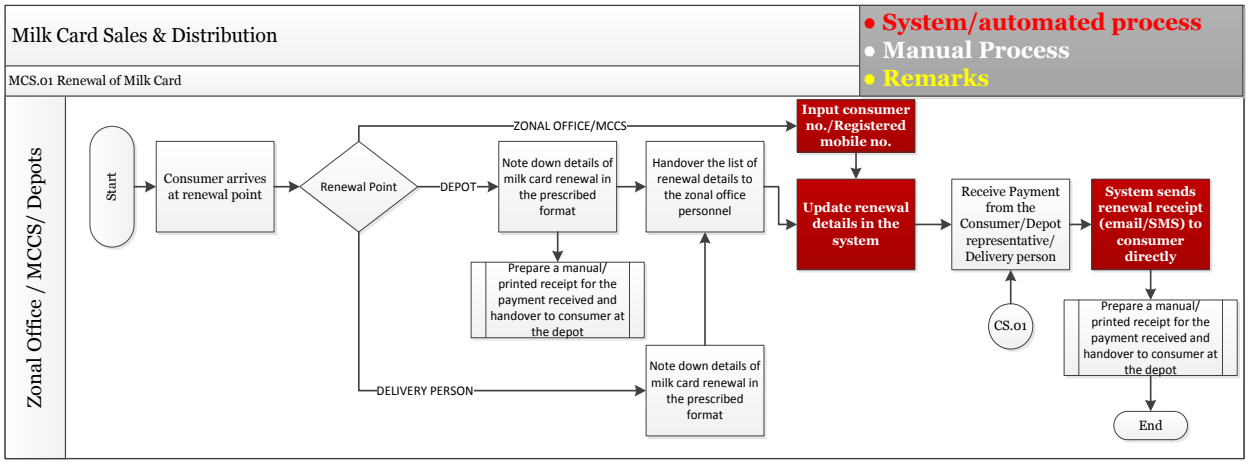

Up country sales
• System/automated process
• Manual Process
• Remarks
Union
Start
Receipt of indent by Federation from C&F agents, other federations
Consolidation of indents by Federation
Stock details of products at Unions visible online
Issue indent to the Unions
C&F or other federation?
C&F
Stock transfer by concerned Unions
Federation to receive payment as and when sale happens
Other federation
Check for receipt of payment from concerned party
Supply of goods
Make payment to Unions after retaining Federation commission and associated taxes
End

9.4.2.2. Process Description

Sl. No.	Activity	Process Owner
1	Receipt of indent by Federation from C&F agents, other federations. Consolidation of indents in the system. Issue indent to the Unions. Stock details of products at Unions visible online.	Marketing section in charge at Federation
2	In case of C&F stock is transferred by concerned Unions.	Marketing section in charge of concerned Union
3	On receipt of payment, Federation makes payment to Unions after retaining Federation commission and associated taxes	Marketing section in charge at Federation
4	In case of supply to other federation, check for receipt of payment from concerned party. Goods are supplied from the concerned unions and Federation makes payment to Unions after retaining Federation commission and associated taxes	Marketing section in charge at Federation

9.4.3. *Manage card sales (milk card renewal)*

9.4.3.1. *Process Map*

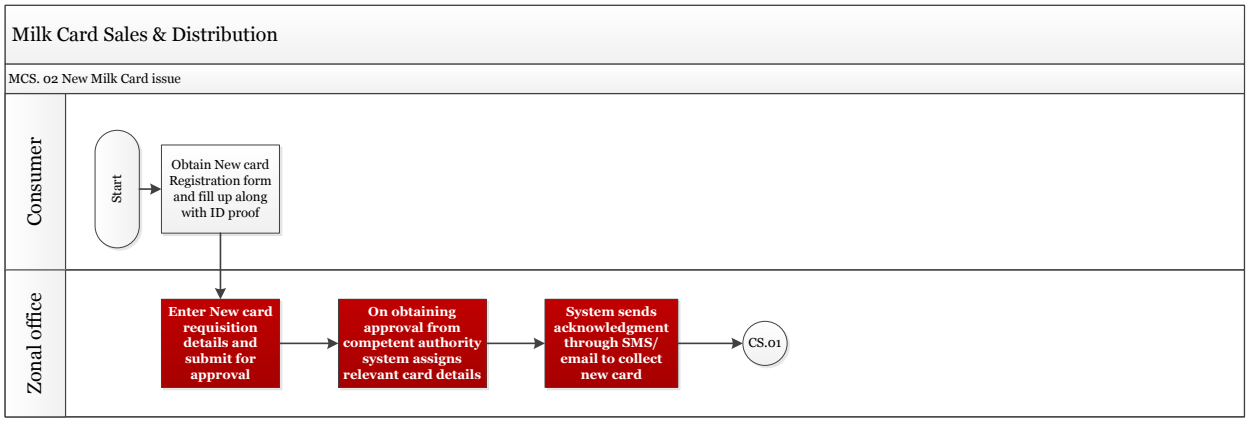

Milk Card Sales & Distribution
MCS.01 Renewal of Milk Card
• System/automated process
• Manual Process
• Remarks
Zonal Office / MCCS/ Depots
Start
Consumer arrives at renewal point
Renewal Point
ZONAL OFFICE/MCCS
DEPOT
DELIVERY PERSON
Note down details of milk card renewal in the prescribed format
Handover the list of renewal details to the zonal office personnel
Prepare a manual/ printed receipt for the payment received and handover to consumer at the depot
Note down details of milk card renewal in the prescribed format
Input consumer no./Registered mobile no.
Update renewal details in the system
Receive Payment from the Consumer/Depot representative/ Delivery person
CS.01
System sends renewal receipt (email/SMS) to consumer directly
Prepare a manual/ printed receipt for the payment received and handover to consumer at the depot
End

9.4.3.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Consumer arrives at renewal point. If renewal point is Zonal Office or MCCS, input consumer no./ Registered mobile no. Update renewal details in the system. Receive Payment from the Consumer/Depot representative/Delivery person and handover milk card. System sends renewal information (email/SMS) to consumer directly. If renewal point is depot, note down details of milk card renewal in the prescribed format and handover the milk card to the consumer. Handover the list of renewal details to the zonal office personnel and update in the system. If renewal is through delivery person, note down details of milk card renewal in the prescribed format. Update renewal details in the system. Receive Payment from the Consumer/Depot representative/Delivery person and handover milk card. System sends renewal information (email/SMS) to consumer directly.	Personnel in charge at Zonal Office / MCCS/ Depots

9.4.4. *Manage card sales (new milk card issue)*

9.4.4.1. *Process Map*

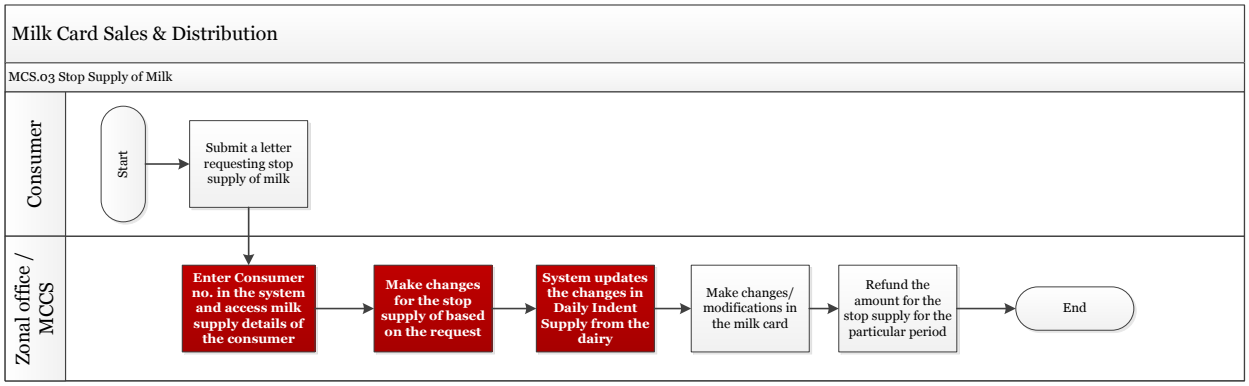

Milk Card Sales & Distribution
MCS. 02 New Milk Card issue
Consumer
Zonal office
Start
Obtain New card Registration form and fill up along with ID proof
Enter New card requisition details and submit for approval
On obtaining approval from competent authority system assigns relevant card details
System sends acknowledgment through SMS/ email to collect new card
CS.01

9.4.4.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Obtain New card Registration form and fill up along with ID proof.	Consumer
2	Enter New card requisition details and submit for approval. On obtaining approval from competent authority system assigns relevant card details. System sends acknowledgment through SMS/email to collect new card	Personnel in charge at Zonal Office / MCCS/ Depots
3	Receive Payment from the Consumer/Depot representative/Delivery person. System sends renewal receipt (email/SMS) to consumer directly. Printed receipt handed over to consumer or consumer's representative.	Personnel in charge at Zonal Office / MCCS/ Depots

9.4.5. *Milk card sales (stop supply of milk)*

9.4.5.1. *Process Map*

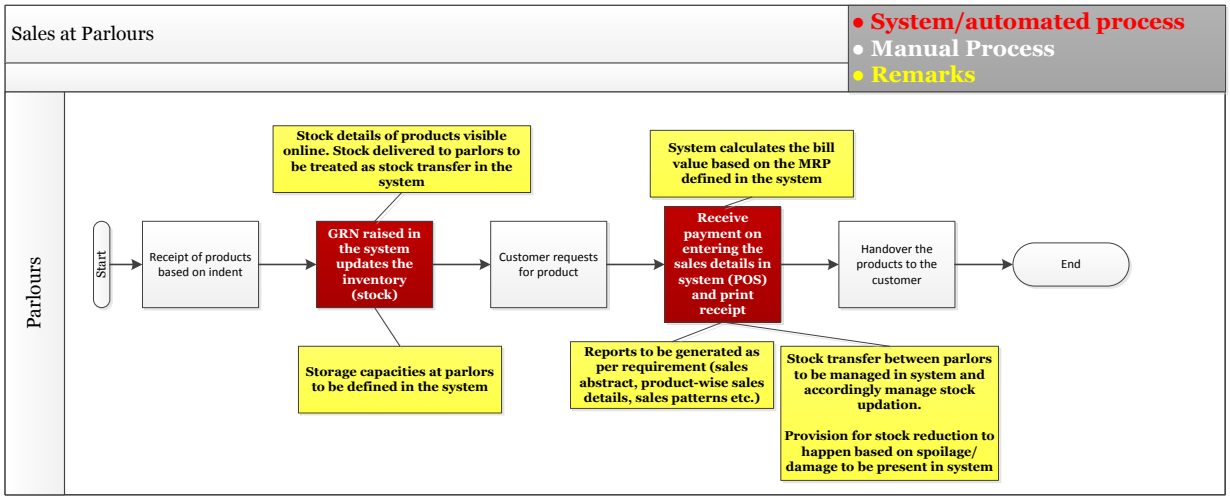

Milk Card Sales & Distribution
MCS.03 Stop Supply of Milk
Consumer
Zonal office / MCCS
Start
Submit a letter requesting stop supply of milk
Enter Consumer no. in the system and access milk supply details of the consumer
Make changes for the stop supply of based on the request
System updates the changes in Daily Indent Supply from the dairy
Make changes/ modifications in the milk card
Refund the amount for the stop supply for the particular period
End

9.4.5.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Submit a letter requesting stop supply of milk.	Consumer
2	Enter Consumer no. in the system and access milk supply details of the consumer. Make changes for the stop supply of based on the request. System updates the changes in Daily Indent Supply from the dairy	Personnel in charge at Zonal Office / MCCS/ Depots
3	Make changes/modifications in the milk card. Refund the amount for the stop supply for the particular period.	Personnel in charge at Zonal Office / MCCS/ Depots

9.4.6. Manage sales at parlours

9.4.6.1. Process Map


Sales at Parlours
• System/automated process
• Manual Process
• Remarks
Parlours
Start
Receipt of products based on indent
GRN raised in the system updates the inventory (stock)
Stock details of products visible online. Stock delivered to parlors to be treated as stock transfer in the system
Storage capacities at parlors to be defined in the system
Customer requests for product
Receive payment on entering the sales details in system (POS) and print receipt
System calculates the bill value based on the MRP defined in the system
Reports to be generated as per requirement (sales abstract, product-wise sales details, sales patterns etc.)
Stock transfer between parlors to be managed in system and accordingly manage stock updation.
Provision for stock reduction to happen based on spoilage/ damage to be present in system
Handover the products to the customer
End

9.4.6.2. Process Description

Sl. No.	Activity	Process Owner
1	Receipt of products based on indent.	Personnel in charge at parlours
2	GRN raised in the system updates the inventory (stock). Stock details of products visible online. Stock delivered to parlors to be treated as stock transfer in the system. Storage capacities at parlors to be defined in the system.	Personnel in charge at parlours
3	After customer requests for product, receive payment on entering the sales details in system (POS) and print receipt. System calculates the bill value based on the MRP defined in the system. Reports to be generated as per requirement (sales abstract, product-wise sales details, sales patterns etc.). Stock transfer between parlors to be managed in system and accordingly manage stock updation. Provision for stock reduction to happen based on spoilage/ damage to be present in system.	Marketing Control Room in charge at Products Dairy

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Functionalities in Marketing	
Marketing unit at union/metro dairies performs activities related to marketing of milk and milk products. The following are the list of functionalities to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS: • Marketing of milk and milk products and managing receivables • Sales of Sachet milk, Milk products and Up country sales (sales to other states of the country) • Accounting and Ledger for sales and clients are maintained • Zonal offices perform functions of booking of milk supply to institutions and special orders, milk card sales and accounting • Monitoring the distribution of milk and milk products to various delivery points • Consolidation of milk indents and milk supply scheduling • The product wing of the Federation located at Nandanam directly carries out the marketing of the products in Chennai Metro and Suburbs • The sale of milk products is through various channels viz. parlours, Franchisee, Retail outlets (FROs), whole sale dealers and Retailers • Consumer grievances redressal through Consumer Complaints Cell	
4.1.	**Sales Planning**
4.1.1.	Provision for sales planning with the top down and bottom up approach (SKU wise)
4.1.2.	Ability to aggregate and disaggregate region wise sale information from the past in the reports. The sales information report could be captured annually, monthly, weekly , day, shift wise for a particular region/Sales Agent-wise/ distributor-wise, institution wise etc.
4.1.3.	Ability to generate sales trend analysis based on the region, channel , SKU, variant wise etc.
4.1.4.	Ability to forecast the demand (region wise, zone wise etc.) based on the sales data
4.1.5.	Ability to input the market intelligence data like pricing information, market size, market trends etc. and forecast sale on the basis on these parameters
4.1.6.	Ability to capture the sales deviation information based on the product and variant wise
4.1.7.	Ability to generate sales plan based on the sales information captured in the system
4.1.8.	Ability to capture the sales loss information in case of non-availability of stocks
4.1.9.	Ability to plan for the supply of milk from the federation dairies and district unions. In case of supply of milk from other unions, we have to reconcile the accounts based on the milk sold to consumers (payments received) by milk supplied from other unions (paid to union)
4.2.	**Milk Card Sales**
4.2.1.	Ability to record the sales of milk cards customer wise, depot wise, zone wise in the system
4.2.2.	Ability to plan the sale of cards region-wise, zone-wise, depot-wise etc.
4.2.3.	Ability to record the dispatch of milk cards and track the sales (daily) of the same consumer-wise, depot-wise in the consumer societies (MCCS)
4.2.4.	Ability to monitor (daily) the payment made in the bank for the milk cards sales at the MCCS
4.2.5.	Ability to facilitate new customers' registration in the portal for purchase of new milk

S. No.	Functional Requirement
	cards online (Register, upload supporting documents, track approval status, generation of consumer no., apply for milk cards for type of milk, etc.)
4.2.6.	Ability to define limits to maximum milk cards that can be purchased per consumer
4.2.7.	Ability to validate duplicate registration of consumer
4.2.8.	Ability for customers to make payments online for renewal of milk cards
4.2.9.	Ability to consolidate the sale of milk cards through online portal
4.2.10.	Ability to update the indents based on the milk card renewals and new card sales
4.2.11.	Ability to modify the type of milk card sales as per requests received from consumers
4.2.12.	Ability to generate reports based on the milk card sales region-wise, depot wise etc.
4.2.13.	Ability to record the sales of cards to the consumer societies and track their sales
4.2.14.	Ability to integrate with laptop devices (with internet connectivity) at the field staff level for tracking sales of cards
4.2.15.	Ability to create/ modify user name and password and depot/zone/ region/ MCCS by the administrator
4.2.16.	Ability to modify consumer details and help in registration of the consumer by the zonal office personnel
4.2.17.	Ability to renew the milk card sales for any depot in any of the zonal office
4.2.18.	Ability to maintain the milk card stock at zonal and MCCS offices
4.2.19.	Ability to manage refund to consumer in case of stop supply for milk card
4.2.20.	Ability to plan for replacement or refund for milk card consumers in case of spoilage of milk
4.3.	**Sales order processing**
4.3.1.	Ability to capture the indent details for milk and milk products (when received online) or by manually entering into the system when the order is received over the phone, email etc. Following details needs to be captured: Date and location of delivery Purchase order number Materials code with description and quantity
4.3.2.	Ability to create sales order by uploading the indent details from sources like excel file, notepad etc.
4.3.3.	Provision for the agency to place the indent through internet portal/ SMS gateway
4.3.4.	Ability to update/modify the indent/Sales order (by authorized personnel defined in the system) • Manually • Capturing the details from the internet portal/ SMS gateway • Capturing the details from the excel file
4.3.5.	Ability to define the cut-off time up to which the order can be modified in the system
4.3.6.	Ability to retrieve the sales order for a particular region/distributor/Sales Agent
4.3.7.	Ability to check stock level at plant and compare with the order being placed
4.3.8.	Ability to modify the sales order (manually or system-based) based on the stock availability in the plant
4.3.9.	Ability to perform credit check and check the security deposit at the time of creation of the sales order
4.3.10.	Ability to generate cumulative sales order list from distributors/Sales Agents
4.3.11.	Ability to consolidate sales orders (zone wise/ party wise) and plan for distribution
4.3.12.	Ability to print the Sales order
4.3.13.	Ability to E-mail the Sales order
4.3.14.	Ability to set multiple approval levels for sales order for particular distributor/Sales Agent
4.3.15.	Ability to approve or reject a sales order processing and maintain reason for rejection

S. No.	Functional Requirement
4.3.16.	Ability to block stock of specific order with reason
4.3.17.	Ability to block sales order and release blocked sales order with explanation
4.3.18.	Ability to tag status for orders like awaiting approval, approved, rejected etc.
4.3.19.	Ability to track status of Sales order
4.3.20.	Ability create discounts and schemes for promotions and make plans accordingly
4.3.21.	Ability to notify and consider free goods/promotion schemes/discounts while creating the sales order and also edit existing sales order
4.3.22.	Ability to maintain pricing details distributor/Sales Agent wise. Ability to incorporate various tax rates and excise requirements, discounts, schemes, surcharges etc. during pricing as defined in the price master (and the logic defined in the system)
4.3.23.	Ability to maintain pricing history distributor/Sales Agent wise
4.3.24.	Ability to generate intelligent reports of patterns of indents received region-wise, type of milk wise etc.
4.3.25.	Ability to track consumers' milk purchase patterns
4.3.26.	Ability to maintain customer profile in the system
4.3.27.	Ability for total indents to be viewed by Marketing Control room to prepare their production targets to be executed by Production team
4.4.	**Cash Sales (milk)**
4.4.1.	Ability to monitor milk cash sales and party-wise advance payments
4.4.2.	Ability to maintain depot-man wise due ledger with depot details
4.4.3.	Ability to monitor the cash collection for stop supply of card milk at defined rates
4.5.	**Special order milk supply**
4.5.1.	Ability to maintain the advance received from the party for the supply of milk for special order (marriage, events etc.)
4.5.2.	Ability to adjust the milk supplied against the payment received
4.6.	**Institution supply**
4.6.1.	Ability to maintain the security deposit and the credit limit for the institutions that are being supplied milk
4.6.2.	Ability to generate periodic invoice against the milk supplied to the institution
4.6.3.	Ability to maintain institution-wise accounts and monitor the payment received
Distribution Management	
4.7.	**Transporter Details**
4.7.1.	Ability to record transporter details. Following details needs to be recorded (indicative) •Vehicle Number •Transporter name •Contract details •Rates •Security Deposit •Bank Guarantee •Contract period (from-to)
4.7.2.	Ability to capture multiple rates for transporters due to (indicative) •Multiple location and type of route •Cash handling charges •Toll charges •Adjustment due to spillage •Adjustment in bill quantity •Discrepancy and dishonouring •Tub loss •Milk loss •Diesel rate

S. No.	Functional Requirement
4.7.3.	Ability to carry out route planning for transporters
4.7.4.	Ability to check vehicle availability as per the route schedule
4.7.5.	Ability to identify vehicle for plying according to the route schedule
4.7.6.	Ability to modify tanker routes (with proper workflow defined in system) with explanation
4.7.7.	Ability to capture details of loading pass to be issued to the vehicle
4.7.8.	Ability to capture dispatch details of transporter. Following details needs to be captured: •Dispatch date and time •Route to be followed •Vehicle Capacity •Material quantities •Scheduled arrival time
4.7.9.	Ability to generate the gate pass through system
4.7.10.	Ability to capture transporter arrival details. Following details needs to be captured: • Arrival time at the customer location • Material quantities delivered
4.7.11.	Ability to capture the insurance details of the dispatched material
4.7.12.	Ability to track insurance claims till date
4.7.13.	Ability to capture tanker pre-loading weight, post loading weight and after deliveries weight.
4.7.14.	Ability to renew transporter contract's expiry date
4.7.15.	Ability to impose penalty on transporter for any kind of pilferage or manipulation with explanation in system
4.8.	**Stock Details/Delivery Details (Despatch of products is covered in Transportation (4.3)**
4.8.1.	Ability to capture weight and volume of stocks
4.8.2.	Ability to check for stock availability at plant and view the inventory levels at the parlours/ zones etc.
4.8.3.	Ability to generate order delivery from multiple plants/ multiple storage locations in a plant
4.8.4.	Ability to create delivery quantities from sales order
4.8.5.	Ability to track delivery status
4.8.6.	Provision for the customer to send the acknowledgement of the receipt of the material/SKU via SMS or through website.
4.8.7.	Ability to enter manually the acknowledgement details received by the distributor/Sales Agent over the phone
4.8.8.	Ability to calculate the commission to the sales channels based on the definitions in the system and prepare the invoices accordingly
4.8.9.	Ability to record and track customer complaints
4.8.10.	Ability to capture details of return/ reject material from the customers.
4.8.11.	Ability to prioritize deliveries based on material requirement
4.8.12.	Ability to perform aging analysis of stocks and customers
4.8.13.	Ability to track material transfer from production units to to further distribution centres/Sales Agents
4.8.14.	Ability to maintain reason code for tracking modification in delivery location
4.8.15.	Ability to generate space utilization report of storage space compared to space utilized and do a cost analysis
4.8.16.	Ability to assign personnel to different route and different shift
4.8.17.	Ability to generate pooled indent for each route

S. No.	Functional Requirement
4.8.18.	Ability to generate loading schedule for packing stations taking into considerations various factors such as : dock capacity, time study analysis result for the respective station, priority routes, distances to be covered etc.
4.8.19.	Ability to track the materials, tubs and cans so used for packing
4.8.20.	Ability to capture loss/gain on daily transactions
4.8.21.	Ability to capture quality check to different levels during deliveries
4.8.22.	Provision for stock position at vendor site to be made available online
4.8.23.	Provision for details of production vs indented quantity to vendor on weekly, monthly and yearly basis to be made available online
4.9.	**Invoicing and Payment**
4.9.1.	Ability to generate the sales order on the following payment options: • Credit based • Advance payment
4.9.2.	Provision to define the payment option (advance/credit) for the particular customer (distributor/Sales Agent)
4.9.3.	Ability to generate invoices with respect to deliveries or sales order against the party. Ability to calculate the appropriate tax applicable with reference to the schedule, commodity code etc. defined in the system (to be developed)
4.9.4.	Ability to generate multiple invoices for a sales order
4.9.5.	Provision to allow for multiple invoicing for a sales order
4.9.6.	Ability to input various rules for approval of invoices release
4.9.7.	Ability to capture invoices where ever the sales proceeds is collected in cash
4.9.8.	Ability to send invoices automatically/manually by email/other mediums
4.9.9.	Ability to block invoices against any particular customer with explanation
4.9.10.	Ability to generate single invoice from multiple sales orders
4.9.11.	Ability to maintain/handle invoices batch wise
4.9.12.	Ability to generate different types of invoices
4.9.13.	Ability to support a revision in tax rates or interest rates with retrospective effect and trigger corresponding accounting entries
4.9.14.	Ability to generate list of distributor where advance payment is confirmed
4.9.15.	Provision to keep the record of the security deposit against the customer
4.9.16.	Ability to keep track of the number of tubs delivered to the particular customer
4.9.17.	Ability to enter the advance payment detail in the system
4.9.18.	Ability to email the day end account details report
4.9.19.	Ability to generate billing for institutions/other for a particular period
4.9.20.	Ability to generate dues for transporter for a particular period
4.9.21.	Ability to capture deductions if any in cases of cheque dishonouring, pilferage/low quality milk/leakage. Ability to capture details of cheque bounced from a party
4.9.22.	Ability to capture status of payment received and the amount due for each customer
4.9.23.	Ability to generate due refund statement route wise/customer wise
4.9.24.	Ability to capture details running account information - Balance/dues/commission of the partners.
4.9.25.	Ability to generate alert via SMS/emails in specific conditions defined in the system
4.10.	**Customer Complaint/Grievance Management**
4.10.1.	Ability to register Customer complaint/grievance through phone access, email, online form, capturing details from hard copy
4.10.2.	Ability to capture complaints/grievance details. Following details needs to be captured: Customer Name Cunsumer Number

S. No.	Functional Requirement
	Date of complaint/grievance Type of complaint/grievance Status of complaint/grievance
4.10.3.	Ability to generate unique complaint/grievance number
4.10.4.	Ability to track and manage complaints/grievances
4.10.5.	Ability to categorize complaint/grievance into predefined groups
4.10.6.	Ability to assign and notify receipt of complaint/grievance to concerned department. Ability to notify via email/sms
4.10.7.	Ability to update Customer record with the complaint/grievance resolution, if needed
4.10.8.	Ability to maintain FAQs
4.10.9.	Ability to monitor complaint status
4.10.10.	Ability to set up tiered structure for complaints escalations up to senior level
4.10.11.	Ability to perform full and partial search by all available fields like type, source or status of complaint/grievance
4.10.12.	Ability to track history of changes to Customer record
4.11.	**Inventory Management**
4.11.1.	Ability to analyze the consumption pattern, present stock and pipeline quantity, estimated sales (finished goods), production plan, etc. to plan for inventory
4.11.2.	Ability to set preservation schedules for various items and send reminders when preservation and preservation conditions required
4.11.3.	Ability to record the preservation and storage requirements of materials
4.11.4.	Ability to record the inspection schedule and results of shelf life items and alert.
4.11.5.	Ability to record name of supplier, batch number, procurement date, expiry date for material supplied
4.11.6.	Ability to perform various kinds of inventory analysis like ABC analysis, XYZ analysis, Fast/Slow/Non-moving analysis, Min-Max analysis, etc. with alert.
4.11.7.	Ability to post stock adjustment transactions (positive and negative adjustments) to adjust quantity and / or value after approval.
4.11.8.	Ability to analyze inventory in terms of 'items reached re-order / safety level' and 'critical' items and generate appropriate alerts to respective stakeholders
4.11.9.	Ability to analyze age-wise and location-wise inventory, class code wise, area code wise, shop floor wise
4.11.10.	Ability to maintain and run the Stores Ledger detailing the opening and closing stock, receipts, issues, price and quantity
4.11.11.	Ability to do Stock Verification based on the defined method and periodicity.
4.11.12.	Ability to create and maintain item master with detailed control flags viz : critical to quality, critical to production, proprietary, insurance, hazardous, shelf life, compliance, area wise quantity of installation, alias codes, similar items, alternate items, rate contract, surplus, obsolete, scrap, vat category, etc.
4.11.13.	Ability to value inventory on various methods like average, weighted average, current, etc.
4.11.14.	Ability to revalue inventory, with tracking to revert back / to get original value, if required.
4.11.15.	Ability to analyze raise in inventory based on quantity escalation, value escalation
4.11.16.	Ability to track sub-store inventory
4.11.17.	Ability to track claims on product shipment / theft / transit losses.
4.11.18.	Ability to record and track survey / inspection details
4.11.19.	Ability to lodge provisional claim and track it to final claim settlement.
4.12.	**Customer Master**
	Distributors details

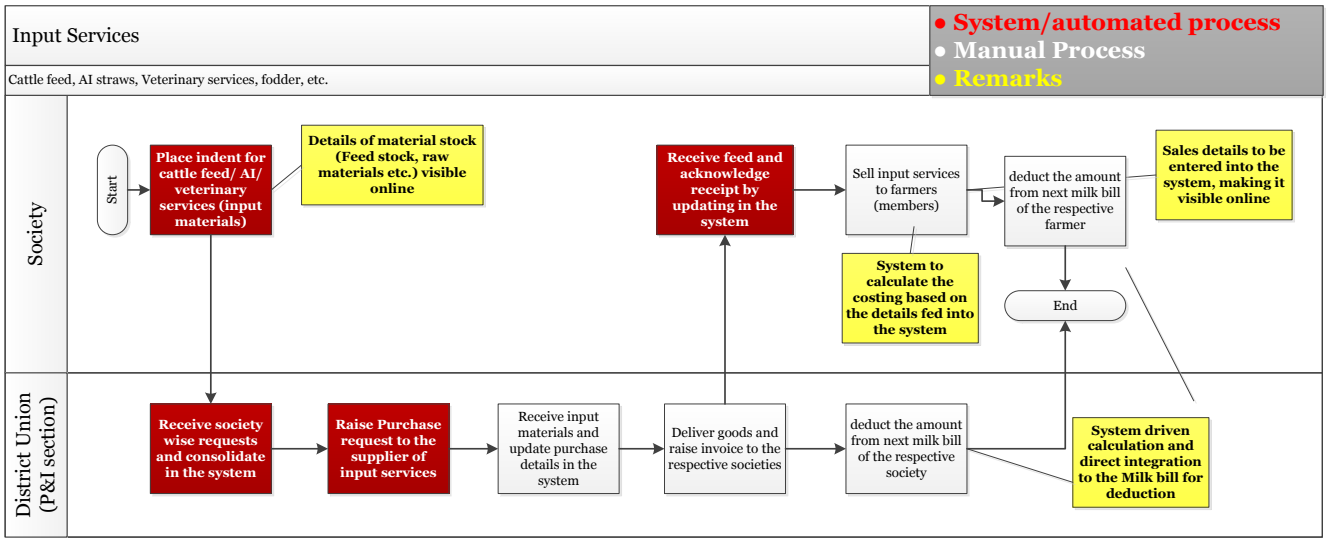
S. No.	Functional Requirement
4.12.1.	Ability to capture details of distributor/Sales Agent. Following details needs to be captured: •Name •Address •Statutory requirement •Date of joining •Agreement date •Agreement expiry date •Termination date •Bank account number
4.12.2.	Ability to update/modify distributor/Sales Agent details
4.12.3.	Ability to assign unique code to the Distributor
4.12.4.	Ability to map retailers/Sales Agent to distributors
4.12.5.	Ability to retrieve Distributor/Sales Agent details based on a region
4.12.6.	Ability to capture security deposits for Distributor/Sales Agent and the tub they would be using
4.12.7.	Ability to map assets present with distributor/Sales Agent
4.12.8.	Ability to capture performance details of distributor/Sales Agent. Following information needs to be captured: •Complaints received against •Cheques dishonoured
4.12.9.	Ability to maintain performance history of distributor/Sales Agent
4.12.10.	Ability to grade distributors/Sales Agents based on a various priority
4.12.11.	Ability to capture details of multiples shipping locations, billing partners, sales personnel for each distributor/Sales Agent
4.12.12.	Ability to capture name, address, date of joining and statutory requirements of customers
4.12.13.	Ability to map customer - distributor/Sales Agent
4.12.14.	Ability to retrieve customer details based on a region/distributor/Sales Agent
4.12.15.	Ability to block a customer for further processing of any transaction
4.13.	**Distribution of milk & milk products**
4.13.1.	Ability to provide route-wise loading schedule
4.13.2.	Ability to monitor deviations in dispatch time vs. schedule and quantity vs indent to be made available online
4.13.3.	Provision for online tub management account required in the system
4.13.4.	Ability to provide online information relating to route-wise, date-wise dispatch Vs received tubs on monthly basis
4.13.5.	Ability to provide cumulative periodic tub account and transporter-wise cumulative statement.
4.13.6.	Ability to define the tub reorder level at item level, location level, company level.
4.13.7.	Ability to monitor tub in transit.
4.13.8.	Ability to provide the online information regarding commodities consumed.
4.13.9.	Provision for shelf life analysis product-wise and batch-wise to be made available online
4.13.10.	Ability to provide the information regarding the performance of packing machines, quality rate of packing machine and thus overall efficiency of machines
4.13.11.	Provision in the system for online stock transfer and transfer of product as per the transfer prices defined for every product or its variant
4.13.12.	Provision for online outsourced manufacturing schedule to be made available to

S. No.	Functional Requirement
	supplier
4.13.13.	Provision for batch rejection details to be made available online
4.13.14.	Provision for stock position at vendor site to be made available online
4.13.15.	Provision for details of production vs indented quantity to vendor on weekly, monthly and yearly basis to be made available online
4.13.16.	Provision for online dispatch schedule to be made available in the system
4.13.17.	Provision to define transfer prices in the system
4.13.18.	Ability to verify quantity, price, tax data at the time of creating the goods receipt document
4.13.19.	Provision for capturing of packing machine counter reading in production receipt transaction
4.13.20.	Ability to monitor product-wise production losses in terms of characteristics
4.13.21.	Ability to change the destination of delivery in the system after actual delivery made
4.13.22.	Ability to cancel and create fresh invoice to party (in case of party transfer or partial transfer) based on workflow defined in the system
4.13.23.	Ability to manage inter party transfer (stock transfer between Aavin parlours)
4.13.24.	Ability to integrate the payment received through bank and Aavin office

9.5. Input Services

9.5.1. Manage input services (cattle feed, AI, veterinary services, fodder etc.)

9.5.1.1. Process Map


Input Services
Cattle feed, AI straws, Veterinary services, fodder, etc.
• System/automated process
• Manual Process
• Remarks
Society
Start
Place indent for cattle feed/ AI/ veterinary services (input materials)
Details of material stock (Feed stock, raw materials etc.) visible online
Receive feed and acknowledge receipt by updating in the system
Sell input services to farmers (members)
deduct the amount from next milk bill of the respective farmer
Sales details to be entered into the system, making it visible online
System to calculate the costing based on the details fed into the system
End
District Union (P&I section)
Receive society wise requests and consolidate in the system
Raise Purchase request to the supplier of input services
Receive input materials and update purchase details in the system
Deliver goods and raise invoice to the respective societies
deduct the amount from next milk bill of the respective society
System driven calculation and direct integration to the Milk bill for deduction

9.5.1.2. Process Description

Sl. No.	Activity	Process Owner
1	Based on the requirement and the indent requests from the farmers, place indent for the cattle feed, AI straws, veterinary services etc. Details of material inventory (Feed stock, raw materials etc.) are visible online in the system	Society Staff
2	Receive consolidated society wise requests in the system	Representative in charge of input services at District Union
3	Raise Purchase request to the supplier of respective input services. The suppliers' database would be maintained in the system.	Purchase section in charge at District Union
4	Purchase activity happens (through bid process management/ periodic request for supply of materials in case of contract signed with the supplier). Contract management to be done by system. Details of all contracts to be recorded in the system (e.g. date of contract, contract validity, payment terms, payment schedule, date of supply of materials etc.).	Purchase section in charge at District Union
5	Receive input materials and update purchase details in the system. Deliver goods and raise invoice against the respective societies.	Representative in charge of input services at District Union
6	Receive feed and other input services and acknowledge receipt by updating in the system. Sell input services to farmers (members). System to calculate the recoveries adjustments to be made from next milk bill of the respective farmer.	Society Staff

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Functionalities at SOCIETY Level	
5.1.	**Order Tracking**
5.1.1.	Provision to take orders for various input services including cattle feed, AI etc.
5.1.2.	Provision to track order status for items related to cattle feed, AI among others
5.1.3.	Provision to capture the order directly into the software system or work in offline mode and then upload that into the central database.
5.1.4.	Provision to interact with the central system to download relevant forms for capturing details for required input services
5.1.5.	Provision to temporarily store inputs obtained on prescribed forms locally before compiling and uploading the data to central server
5.2.	**Ration Balancing Program (RBP)**
5.2.1.	Ability of system to record key details for the cattle owned by each member during Member registration and update it on periodical basis.
5.3.	**Cattle Feed**
5.3.1.	Provision to capture order details like Item name and quantity against a SOCIETY for Cattle Feed
5.3.2.	Ability to maintain credit limit for input services being provided to the farmers. System should alert when the order value goes above the credit limit else the credit limit to be accepted as the order value
5.3.3.	Provision to track sale and distribution of items
5.4.	**Artificial Insemination (AI)**
5.4.1.	Provision to capture order details like type and quantity SOCIETY for AI requirement as ordered
5.4.2.	Additional cattle details to be entered for cattle enrolled for this service: -Date of Artificial Insemination -Breed of bull whose semen is used (Bull number) -Pregnancy diagnosis date -Pregnancy confirmation (Yes/No) -Date of calving -Calf born
5.4.3.	Provision to track sale and distribution of items
5.5.	**Inventory Management**
5.5.1.	Ability to analyze the consumption pattern, present stock and pipeline quantity, estimated sales (finished goods), production plan, etc. to plan for inventory
5.5.2.	Ability to set preservation schedules for various items and send reminders when preservation required
5.5.3.	Ability to define the preservation and storage requirements of materials
5.5.4.	Ability to record the inspection schedule and results of shelf life items and alert.
5.5.5.	Ability to record shelf life of all samples, chemicals and other perishable goods.
5.5.6.	Ability to record name of supplier, batch number, procurement date, expiry date for samples
5.5.7.	Ability to perform various kinds of inventory analysis like ABC analysis, XYZ analysis, Fast/Slow/Non-moving analysis, Min-Max analysis, etc. with alert.
5.5.8.	Ability to post stock adjustment transactions (positive and negative adjustments) to adjust quantity and / or value after approval.
5.5.9.	Ability to analyze inventory in terms of 'items reached re-order / safety level' and 'critical' items and generate appropriate alerts to respective stakeholders

S. No.	Functional Requirement
5.5.10.	Ability to analyze age-wise and location-wise inventory, class code wise, area code wise, shop floor wise
5.5.11.	Ability to maintain and run the Stores Ledger detailing the opening and closing stock, receipts, issues, price and quantity
5.5.12.	Ability to do Stock Verification based on the defined method and periodicity.
5.5.13.	Ability to create and maintain item master with detailed control flags viz : critical to quality, critical to production, proprietary, insurance, hazardous, shelf life, area wise qty of installation, similar items, alternate items, rate contract, surplus, obsolete, scrap, vat category, etc.
5.5.14.	Ability to value inventory on various methods like average, weighted average, current, etc.
5.5.15.	Ability to revalue inventory, with tracking to revert back / to get original value, if required. This is to facilitate compliance to cenvat rules.
5.5.16.	Ability to analyze raise in inventory based on quantity escalation, value escalation
5.5.17.	Ability to track sub-store inventory
5.5.18.	Ability to track claims on product shipment / theft / transit losses.
5.5.19.	Ability to record and track survey / inspection details
5.5.20.	Ability to lodge provisional claim and track it to final claim settlement.
5.6.	**Other system functionality**
5.6.1.	Provision to collect SOCIETY wise data and compile reports to be viewed at HO
5.6.2.	Software system should be flexible to be able to handle new services under input services in future and track its order and material supply
Functionalities at HO Level	
5.7.	**Cattle Feed**
5.7.1.	Provision to consolidate orders received from all BMC/CCs into a PO.
5.7.2.	Provision to send PO to feed manufacturer along with quantity and SOCIETY wise location of each order
5.7.3.	Provision to enable user to view created invoices
5.7.4.	Provision to supply cattle feed to unions in lieu of advance payment. Payment details (DD/online transfer) also to be captured simultaneously and notification to be sent to Finance department
5.7.5.	Provision to allow Finance department to verify the purchase details of cattle feed for unions before confirming order, subject to receipt of payment
5.7.6.	Provision required in the software to record details of SOCIETY wise acknowledgement receipts of feed delivery submitted by manufacturer and initiate payment once all receipts have been submitted
5.7.7.	Ability to deduct the money from member milk bill
5.7.8.	Provision to track sale and distribution of additional items added to the master list in the future
5.7.9.	Provision to keep a track of an inventory including frozen semen dose, liquid nitrogen, AI containers etc

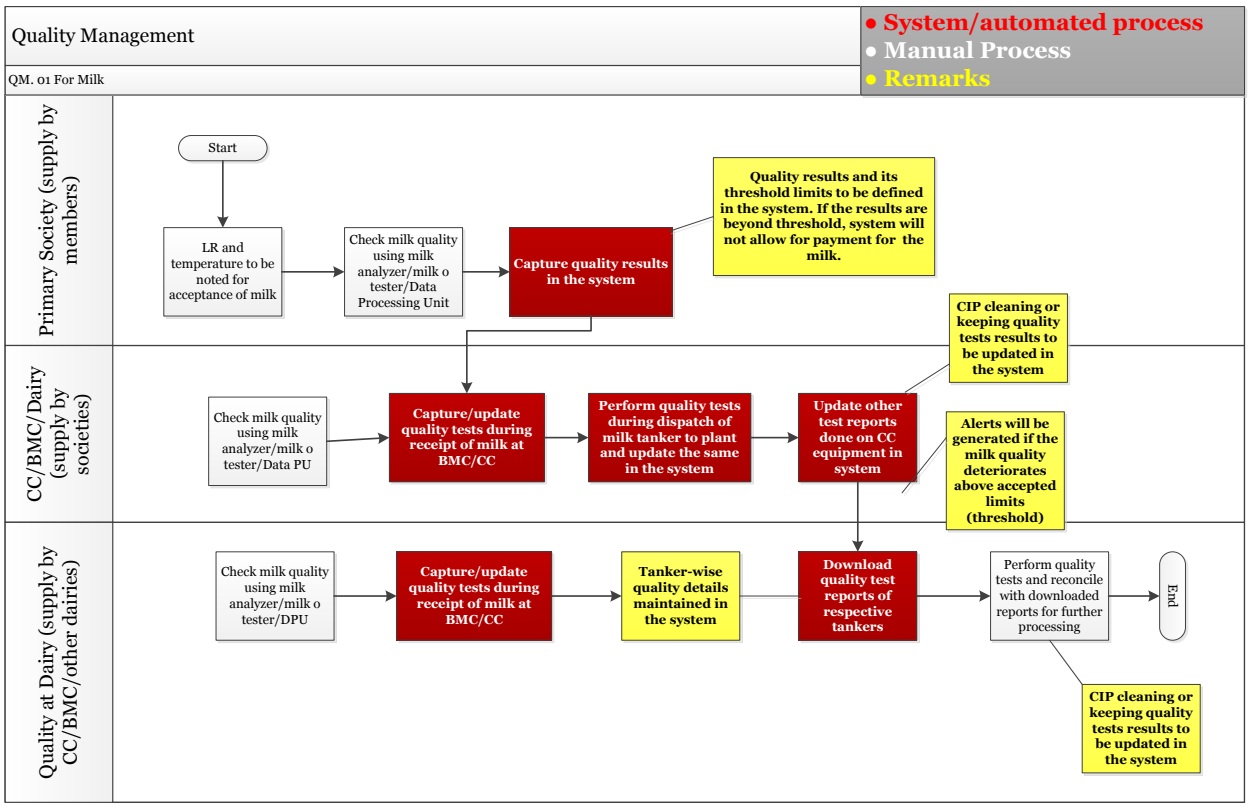
S. No.	Functional Requirement
5.7.10.	Provision to track activities of each AI technician
5.7.11.	Provision to include additional items in the master list of sales item along with item code
5.7.12.	Provision to track sale and distribution of additional items added to the master list in the future
5.8.	**Other system functionality**
5.8.1.	Provision to add/edit a master list of services based on defined workflow
5.8.2.	Ability to store cost of services as applicable to members/non-members and location
5.8.3.	Provision to map each SOCIETY to the service(s) available at that location
5.8.4.	Ability to design and generate forms for capturing details corresponding to specific input services which is to be sent to CCs
5.8.5.	Provision to synchronize data with the central system along with the ability to fetch reports generated from the transmitted data for each service
5.8.6.	Provision to temporarily store inputs obtained on prescribed forms locally before compiling and uploading the data to central server
5.8.7.	Ability to project/forecast milk production from the individual cattle based on the defined rules. There should be the provision in the system to define the rules for projection and forecast
5.8.8.	Ability to generate the milk projection/forecast report per animal wise.
5.9.	**Farmer Management - Member Registration**
5.9.1.	Provision to capture the details of pourer for Member Application Process. Following detail needs to be captured: •Application Form Number •Date of Application •Application/Pourer Code •Name •Daughter/Wife/Son of •Sex •Age •Address •Phone number •PAN number •Number of Cows •Current milk production (Cows) •Number of Buffaloes •Current milk production (Buffaloes) •Bank details (Bank name and branch, A/c number) •Particular of the household members: Name, Age •Deduction Amount
5.9.2.	Ability to update/modify the fields in Membership application form

S. No.	Functional Requirement
5.9.3.	The software system should allow capturing scanned copy of the documents received while membership application.
5.9.4.	There should be a provision to update the membership data (such as new cattle bought) in the system at society level
5.9.5.	Ability to calculate the deductions for the input services provided from the milk bill
5.9.6.	Ability to capture the Membership applicant details at BMC/CC and HO level
5.9.7.	Ability to assign a permanent unique membership code (manual or system generated) to New member/ new society/ new BMC/ new CC
5.9.8.	The member code should be combination of unique identifier for a union, CC, Village, SOCIETY and Member code
5.9.9.	Ability to update Membership status at the HO (Initiated, Approved, Rejected, Cancelled etc) Approved: Register the pourer into a member Rejected: Reject the registration of pourer into a member Cancel: Discontinue the membership of already registered member
5.9.10.	Ability to upload the details of a member in the central server
5.9.11.	System at BMC/CC should be capable of viewing/downloading the details of members corresponding to the societies associated with them
5.9.12.	Ability to email/print the transaction details of the members
5.10.	**Status change of membership**
5.10.1.	Ability to classify a member into a category based on the information captured in the system as specified below: •Annual Milk Quantity to be supplied annually •Number of days of pouring •Minimum numbers of shares subscribed •Flush to lean Ratio
5.10.2.	Ability to calculate and generate reports about the total number of days the milk is supplied by a member
5.10.3.	Ability to calculate and generate reports on the total amount of Milk supplied annually/Monthly and flush and Lean season wise by the member
5.10.4.	Provision to update the membership classification category depending on the rules defined
5.10.5.	Ability to share reports with the other stakeholders
5.10.6.	Ability to generate the membership deactivation notice letter, as per the required format, for each of the member whose membership is to be deactivated.
5.10.7.	Ability to capture the duration post sending the deactivation notice to the member and generate an alert when the duration for getting response is more than defined number of days.
5.10.8.	Ability to keep the record of the response received from the members.
5.10.9.	Provision to update the membership status of the members.

9.6. Quality

9.6.1. Quality Management for milk

9.6.1.1. Process Map


Quality Management
QM. 01 For Milk
• System/automated process
• Manual Process
• Remarks
Primary Society (supply by members)
CC/BMC/Dairy (supply by societies)
Quality at Dairy (supply by CC/BMC/other dairies)
Start
LR and temperature to be noted for acceptance of milk
Check milk quality using milk analyzer/milk o tester/Data Processing Unit
Capture quality results in the system
Quality results and its threshold limits to be defined in the system. If the results are beyond threshold, system will not allow for payment for the milk.
CIP cleaning or keeping quality tests results to be updated in the system
Check milk quality using milk analyzer/milk o tester/Data PU
Capture/update quality tests during receipt of milk at BMC/CC
Perform quality tests during dispatch of milk tanker to plant and update the same in the system
Update other test reports done on CC equipment in system
Alerts will be generated if the milk quality deteriorates above accepted limits (threshold)
Check milk quality using milk analyzer/milk o tester/DPU
Capture/update quality tests during receipt of milk at BMC/CC
Tanker-wise quality details maintained in the system
Download quality test reports of respective tankers
Perform quality tests and reconcile with downloaded reports for further processing
End
CIP cleaning or keeping quality tests results to be updated in the system

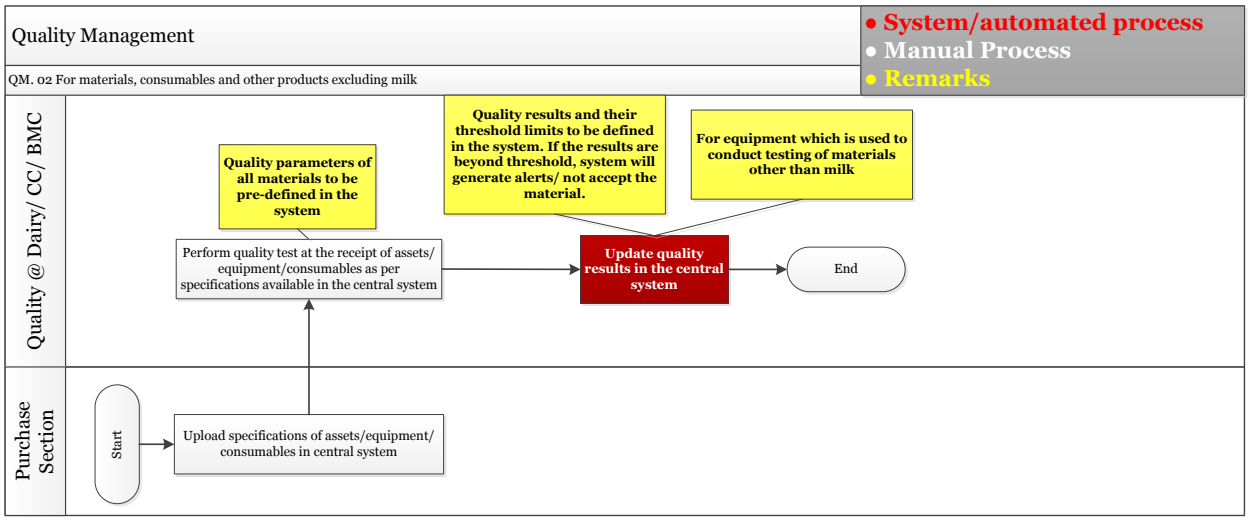
9.6.1.2. Process Description

Sl. No.	Activity	Process Owner
1	Acceptable quality parameters to be defined in the system at each stage. Threshold limits to be set for permissible fat and SNF loss at each stage. Alerts will be generated if the milk quality deteriorates above accepted limits (threshold). LR and temperature to be noted for acceptance of milk. Check milk quality using milk analyzer/milk o tester/Data Processing Unit. Capture quality results in the system. Quality results and its threshold limits to be defined in the system. If the results are beyond threshold, system will not allow for payment for the milk.	Society (where milk is supplied by farmers)
2	Check milk quality using milk analyzer/milk o tester/Data PU. Capture/update quality tests during receipt of milk at BMC/CC. Perform quality tests during dispatch of milk tanker to plant and update the same in the system. Update other test reports done on CC equipment in system. CIP cleaning or keeping quality tests results to be updated in the system. Alerts will be generated if the milk quality deteriorates above accepted limits (threshold).	In charge at CC/ BMC/ Union Dairy (where milk is supplied from societies)

3	Check milk quality using milk analyzer/milk o tester/DPU. Capture/update quality tests during receipt of milk at BMC/CC. Tanker-wise quality details maintained in the system. Download quality test reports of respective tankers. Perform quality tests and reconcile with downloaded reports for further processing. CIP cleaning or keeping quality tests results to be updated in the system.	In charge for quality at Federation Dairy (where milk is supplied from CC/ BMC/ other dairies)

9.6.2. *Quality management for materials, consumables and other products excluding milk*

9.6.2.1. *Process Map*


Quality Management
QM. 02 For materials, consumables and other products excluding milk
• System/automated process
• Manual Process
• Remarks
Quality @ Dairy/ CC/ BMC
Purchase Section
Quality parameters of all materials to be pre-defined in the system
Quality results and their threshold limits to be defined in the system. If the results are beyond threshold, system will generate alerts/ not accept the material.
For equipment which is used to conduct testing of materials other than milk
Perform quality test at the receipt of assets/ equipment/consumables as per specifications available in the central system
Update quality results in the central system
End
Start
Upload specifications of assets/equipment/ consumables in central system

9.6.2.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Upload specifications of assets/ equipment/ consumables in the system. Quality parameters and their threshold limits to be defined in the system. If the results are beyond threshold, system will generate alerts/ not accept the material.	Purchase section in charge at CC/ BMC/ Dairy
2	Perform quality test at the receipt of assets/equipment/consumables as per specifications available in the central system. Update quality results in the central system. On approval by quality, the stock levels of the materials to be updated in the system.	Quality section in charge at CC/ BMC/ Dairy

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

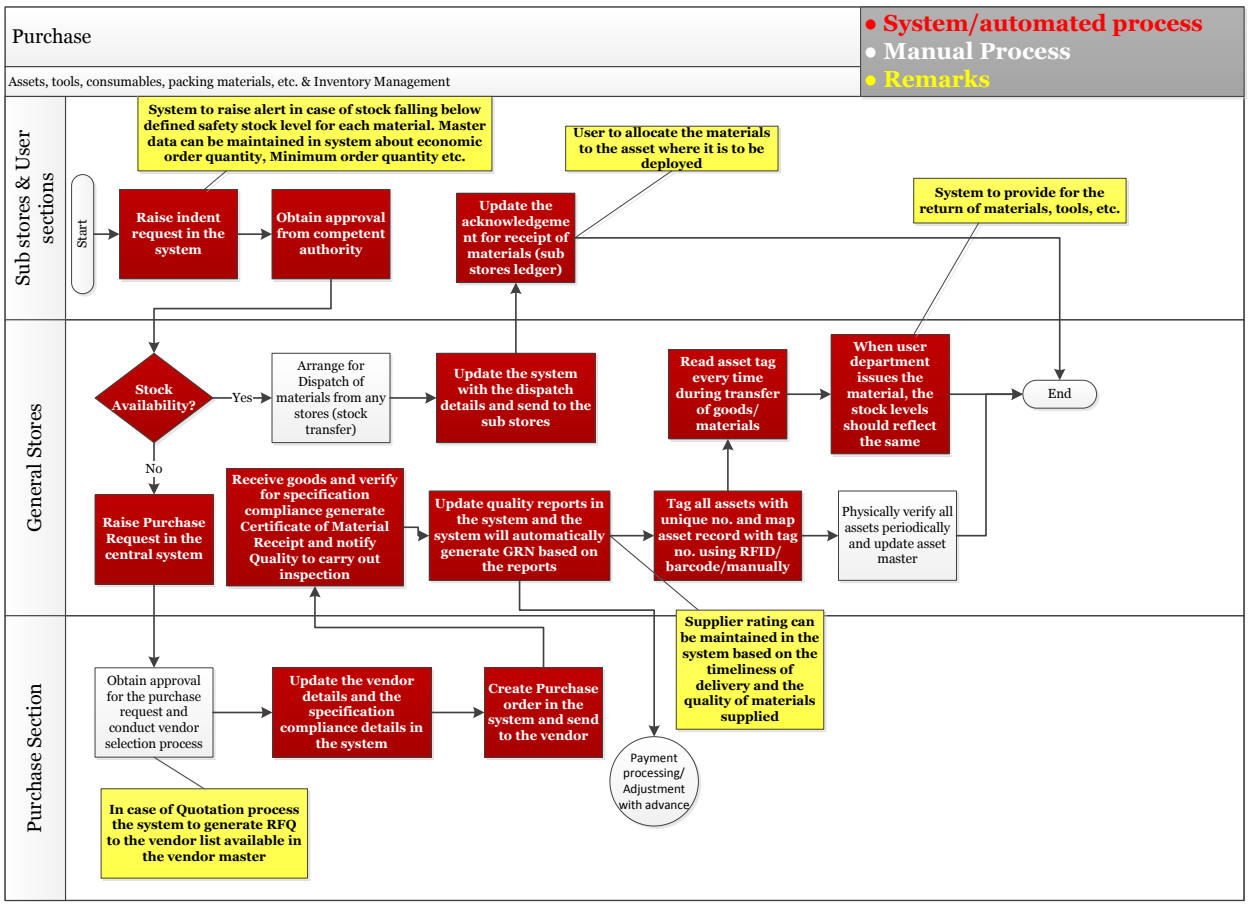
S. No.	Functional Requirement
6.1.	**Dairy Value Chain**
6.1.1.	Ability to capture the test results of the milk collected at Society/BMC/CC and Plant in to the system
6.1.2.	Ability to capture the calibration details of the instruments at Society/BMC/CC
6.1.3.	Ability to generate the alerts, as per the defined frequency, to perform the calibration of instruments
6.1.4.	Ability to extract the details of rejected milk. Following details need to be captured • Quantity of milk •Reason of rejection
6.1.5.	Ability to download from the central server the quality performance data of Society/BMC/CC
6.1.6.	Ability to download from the central server the quality performance data of Inward and outward tankers
6.1.7.	Ability to receive the exception SMS in case quality test confirms milk adulteration/ deviation in milk quality beyond threshold limits defined in system to the phone number defined in the system
6.1.8.	Ability to Capture the details of the surprise visit by the quality team to SOCIETY/BMC/CC/Dairy and generate reports.
6.1.9.	Ability to schedule the surprise visits and publish reminders to the concerned quality team member.
6.2.	**Input Services**
6.2.1.	Ability to capture quality checks on the material received at the distributor / C&F agent
6.2.2.	Ability to capture pre-defined quality parameters for different types of materials e.g. fodder, A.I. and other milk products
6.2.3.	Ability to monitor the quality parameters for the items in stock
6.2.4.	Ability to generate periodic quality report
6.3.	**Production**
6.3.1.	Ability to define the quantity of all outputs including co-products, by-products, wastes recycles and reprocessing of quality deficient products along with provision to define user defined formulas for scaling up the quantities of the input ingredients and output quantities
6.3.2.	Ability to define products with varying active ingredients and their percentage.
6.3.3.	Ability to extract/download from the system the quality test reports of the finished goods (shift wise/ batch wise)
6.3.4.	Ability to carry quality control test online
6.3.5.	Ability to carry out aggregate material balancing. Note: Different milk / conserved commodities contents (FAT & SNF) is received from different federation/sources and required to consolidate the FAT & SNF on an overall basis in order to plan product/commodities to be manufacturing.
6.4.	**Purchase**
6.4.1.	Ability to evaluate vendors (vendor rating) based on Quality, Cost, Delivery, Service and any other user defined parameter
6.4.2.	Ability to generate automatic reminders to vendors for delivery on quality complains.

S. No.	Functional Requirement
6.4.3.	Ability to extract/download quality control data of the purchased items (including consumables) from the central server.
6.5.	**FSSAI Compliance**
6.5.1.	Ability to capture the specification checklist on prescribed Sanitary and Hygienic conditions, Quality and Safety Measures compliance as specified in Vth schedule of Milk & Milk Product Amendment Regulations -1992
6.5.2.	Ability to capture the specification checklist of Prevention of Food Adulteration Rules, as prescribed in Prevention of Food Adulteration Act, 1954
6.5.3.	Ability to categorize the various compliances into predefined groups
6.5.4.	Ability to update the status of individual compliances
6.5.5.	Ability to track and manage the status of prescribed conditions and measures compliance checklist
6.5.6.	Ability to assign and periodically notify the individual departments to comply to prescribed conditions and measures
6.5.7.	Ability to identify the departments not complying to the prescribed conditions and measures
6.5.8.	Ability to notify the department and capture reason for non-complaint
6.5.9.	Ability to set up tier structure for escalations up to senior level in case of non-compliance
6.5.10.	Ability to track and maintain history of changes made to the compliance status of individual specifications by the departments
6.5.11.	Ability to generate audit report depending on the compliant figures

9.7. Purchase

9.7.1. Purchase of assets, tools, consumables, packing materials etc.

9.7.1.1. Process Map


Purchase
Assets, tools, consumables, packing materials, etc. & Inventory Management
• System/automated process
• Manual Process
• Remarks
Sub stores & User sections
General Stores
Purchase Section
Start
System to raise alert in case of stock falling below defined safety stock level for each material. Master data can be maintained in system about economic order quantity, Minimum order quantity etc.
Raise indent request in the system
Obtain approval from competent authority
User to allocate the materials to the asset where it is to be deployed
Update the acknowledgement for receipt of materials (sub stores ledger)
System to provide for the return of materials, tools, etc.
Stock Availability?
Yes
Arrange for Dispatch of materials from any stores (stock transfer)
Update the system with the dispatch details and send to the sub stores
Read asset tag every time during transfer of goods/ materials
When user department issues the material, the stock levels should reflect the same
End
No
Raise Purchase Request in the central system
Receive goods and verify for specification compliance generate Certificate of Material Receipt and notify Quality to carry out inspection
Update quality reports in the system and the system will automatically generate GRN based on the reports
Tag all assets with unique no. and map asset record with tag no. using RFID/ barcode/manually
Physically verify all assets periodically and update asset master
Supplier rating can be maintained in the system based on the timeliness of delivery and the quality of materials supplied
Obtain approval for the purchase request and conduct vendor selection process
Update the vendor details and the specification compliance details in the system
Create Purchase order in the system and send to the vendor
Payment processing/ Adjustment with advance
In case of Quotation process the system to generate RFQ to the vendor list available in the vendor master

9.7.1.2. Process Description

Sl. No.	Activity	Process Owner
1	User at Sub stores & User sections raise indent request in the system. System to raise alert in case of stock falling below defined safety stock level defined for each material. Master data and its logic can be maintained in system about economic order quantity, Minimum order quantity etc. Obtain approval from competent authority.	User at Sub stores & User sections
2	Stock Availability is checked at General Stores. If available, arrange for Dispatch of materials from any stores (stock transfer) and update the system with the dispatch details and send to the sub stores. Update the acknowledgement for receipt of materials (sub stores ledger). User to allocate the materials to the asset where it is to be deployed. If not available, raises Purchase Request in the central system.	General Stores in charge
3	Obtain approval for the purchase request and conduct vendor selection process. In case of Quotation process the system to	Purchase Section in charge

	generate RFQ to the vendor list available in the vendor master.	
4	Update the vendor details and the specification compliance details in the system. Create Purchase order in the system and send to the vendor.	Purchase Section in charge
5	Stores receive goods and verify for specification compliance generate Certificate of Material Receipt and notify Quality to carry out inspection. Update quality reports in the system and the system will automatically generate GRN based on the reports. Supplier rating can be maintained in the system based on the timeliness of delivery and the quality of materials supplied. It is sent for payment processing or adjustment with advance.	General Stores in charge
6	Tag all assets with unique no. and map asset record with tag no. using RFID/barcode/manually. Read asset tag every time during transfer of goods/materials. At the same time, physically verify all assets periodically and update asset master. When user department issues the material, the stock levels should reflect the same. System to have provision for the return of materials, tools, etc.	General Stores in charge

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
7.1.	**Indent/ Purchase Requisition (PR)**
7.1.1.	Ability to raise indent and configure access for to authorized personnel based on organization chart and access control matrix
7.1.2.	Ability to generate a unique indent number.
7.1.3.	Ability to run reports like: past purchase PO, last 3 years consumption, estimated value of current purchase, estimated delivery date, type of purchase, nature of item (proprietary, general), where used details, total budget allocated to the dept. etc.
7.1.4.	Ability to capture reason of purchase/indent when stock available
7.1.5.	Ability to raise alerts when items reach the re-order level and generate indents automatically
7.1.6.	Ability to suggest vendors while raising the draft indent (based on supplier rating)
7.1.7.	Ability to forward the indent to the respective approving authority through a defined workflow for clearances
7.1.8.	Ability to evaluate the indent online and reject / suggest modification / approve indent with detailed comments / notes
7.1.9.	Ability to access information on past purchase details, current inventory status, pending orders etc. required to evaluate an indent and sorting of approved approval hierarchy.
7.1.10.	Ability to attach scanned documents for approval
7.1.11.	Ability to prioritize Purchase Requisitions/Indent on material requirement
7.1.12.	Ability to create internal indent by a unit/dept./etc. on another unit/dept.
7.1.13.	Ability to raise indent for missing item/reject item with appropriate auto generated reason code affixed with indent
7.1.14.	Ability to rework and resubmit the indent for approval after necessary modifications
7.1.15.	Ability to allocate funds against an indent online from department budget
7.1.16.	Ability to track indent status at every approval stage
7.1.17.	Ability to trace the indent to the indenter, department etc. with the audit trail with regard to date
7.1.18.	Ability to freeze indent, post which further modification are restricted
7.1.19.	Ability to track the requirements from different department level and consolidate for indenting. The same has to be monitored for issue to the dept. Provision must be there for authorizing issues beyond projected level.
7.1.20.	Ability to define the items having a matching part and if they are to be procured in set / from same source
7.1.21.	Ability to define job duration and execution period In cases of services indents
7.1.22.	Ability to request for creation of tenders in case of job orders/services
7.1.23.	Ability to choose the mode and type of tendering with justification code
7.1.24.	Ability to auto transmit tender to the purchase department
7.1.25.	Ability to give justification of indent quantity
7.1.26.	Ability to identify existence of rate contracts at the indenting stage and link it accordingly with the indent
7.1.27.	Ability to group items under AMC/Non-AMC
7.1.28.	Ability to create a purchase requisition / Indent from an existing requisition
7.1.29.	Ability to display stock availability during indent creation
7.2.	**Vendor Registration**

S. No.	Functional Requirement
7.2.1.	Web-based registration page to capture details of vendors like name, address, scanned documents, product code ,contact person name(s)etc.
7.2.2.	Ability to capture details of vendors manually as well and facilitate consolidation based on pre-defined criteria to take further approvals for inclusion into the approved vendor list.
7.2.3.	Ability to accept and refund payment as registration fees online, wherever
7.2.4.	Ability to attach documents on-line for verification.
7.2.5.	Ability for generation of provisional/permanent registration letter.
7.3.	**Vendor Master**
7.3.1.	Ability to capture vendor details along with their agents/ dealers, HO, works units, bankers, sister concerns, zonal offices, etc. with respect to the item/materials
7.3.2.	Ability to authorize modification of vendor details by authorized individuals
7.3.3.	Ability to evaluate vendors (vendor rating) based on Quality, Cost, Delivery, Service and any other user defined parameter
7.3.4.	Ability to segregate vendors as approved, preferred, partner
7.3.5.	Ability to link vendors to items for sourcing by group/sub-group.
7.3.6.	Ability to store vendor information with regards to: supplier, contractor, sub-contractor, transporter, approved/ registered, blacklisted/active/not active, dormant, under trial, etc.
7.3.7.	Ability to generate unique vendor code
7.3.8.	Ability to track manufacturer / dealer / stockist / agent etc. with provision for accepting multi role vendors
7.3.9.	Ability to verify existence of rate contracts at indenting stage and to display alerts for sourcing decisions
7.3.10.	Ability to filter vendor according to the region, items etc.
7.3.11.	Ability to track changes made to the vendor master data
7.3.12.	Ability to generate renewal letters / reminders for registration and if no response is received facilitate de-registration of the vendor
7.3.13.	Ability to maintain vendor hierarchy
7.3.14.	Ability to record details of all correspondence made with the vendor against enquiry.
7.3.15.	Ability to block vendors/mark vendors to be removed/deleted
7.3.16.	Ability to send notifications for vendor delivery schedule
7.3.17.	Ability to prevent transactions from blocked/removed vendors
7.3.18.	Ability to allow vendors request for addition/deletion/up gradations of items.
7.3.19.	Ability of vendors to inform about new offers on products
7.3.20.	Ability to receive on-line (web enabled) requests from vendors with respect to change in status/address/contacts and grievances and send intimation to concerned authority for validation
7.3.21.	Ability to auto generate provisional code for new supplier submitting bid for global tender (without requiring registration process - only temporary code creation)
7.3.22.	Sister Unit vendor details visibility and Portfolio of vendors to be submitting and stored in master
7.4.	**Request for Quotation**
7.4.1.	Ability to recommend purchase plan and quantity based on past consumption pattern, specific consumption norms, existing stock, pipeline stock, estimated requirement and lead time involved
7.4.2.	Ability to collect requirements from various departments and procure strategically for common and similar items
7.4.3.	Ability to select vendors for issue of RFQ.
7.4.4.	Ability to track budget allocation and the utilization against the same

S. No.	Functional Requirement
7.4.5.	Ability to capture vendor quotations for material requisitioned against the RFQ
7.4.6.	Ability to create an RFQ from approved indents
7.4.7.	Ability to merge/demerge indents
7.4.8.	Ability to create one RFQ for multiple indents with indent reference.
7.4.9.	Ability to generate multiple RFQ against one indent.
7.4.10.	Ability to provide functionality to perform bid/quotation evaluations
7.4.11.	Ability to input and incorporate the user defined evaluation methodology for vendor selection
7.4.12.	Ability for the vendor to provide quotation/tender information online
7.4.13.	Ability to automatically release the RFQ to the vendors
7.4.14.	Ability to provide functionality for quotation management and evaluation. Ability to create cost comparison statements highlighting prices, lead times of delivery, credit terms, other terms and conditions
7.4.15.	Ability to close the RFQ process at a predefined date and restrict further changes/processing of quotations.
7.4.16.	Ability to issue RFQ for part quantity (when part quantity has been already ordered).
7.4.17.	Ability to track the RFQ in the system in terms of RFQ release, offers receipt, regrets, queries/interaction with vendor as well with indenter and clarification received there on, etc.
7.4.18.	Ability to authorize control/handling of RFQ(s) as per buyer group/purchase officer wise/indenter wise/item class wise etc.
7.4.19.	Ability to record and track proof of RFQ dispatch/receipt at destination details/SPEED POST/FAX
7.4.20.	Ability to receive offers/bids into the system.
7.4.21.	Ability to capture bid details.
7.4.22.	Ability to make comparative statement and rank the offers received based on defined parameters
7.4.23.	Ability to rank offers considering matching items, item wise, and small value items
7.4.24.	Ability to evaluate the offers with comments placed on the respective offers' evaluation / approval flow (comments from indenter, vendors etc.)
7.4.25.	Ability to extend the tender opening date even after the tender submission date has passed.
7.4.26.	Ability to record the details of tender/bid opening
7.4.27.	Ability to record the details of forwarding of offers to technical department and tracking the replies
7.4.28.	Ability to track and generate automatic alerts and reminders for technical recommendations
7.4.29.	Ability to make and send modifications /clarifications on the bids to the respective bidders and recording the final technical recommendation
7.5.	**Purchase Order**
7.5.1.	Ability to check for budget allocation when generating a Purchase order / Purchase Proposal Abstract
7.5.2.	Ability to send the offers for concurrence / approval to the respective authorities as per the Delegation of Power and based on the type of procurement (capital/revenue)
7.5.3.	Ability to prepare a Purchase proposal based on the recommendation made by evaluators
7.5.4.	Ability to revise proposal after negotiation with the vendors
7.5.5.	Ability to capture the following details in PO: Date and location of delivery, PR/Indent number, Material Code with description and quantity, agreed upon rates including breakup of taxes, payment terms, other terms and conditions etc.

S. No.	Functional Requirement
7.5.6.	Ability to give provisional ranking to commercially and technically acceptable offers separately and give final ranking for price bid opening
7.5.7.	Ability to generate Acceptance to Tender (A/T) from RFQ and against the offer from vendor.
7.5.8.	Ability to send the PO to the vendor automatically as well as to others concerned
7.5.9.	Ability to receive orders Acknowledgement from the vendor.
7.5.10.	Ability to follow up for delivery by sending reminders to vendor
7.5.11.	Ability to support centralized and decentralized purchasing scenarios and configure approval limits according to the purchase policies
7.5.12.	Ability to amend Purchase Order with user's approval / financial concurrence and approval of Competent Authority and to keep track of all past amendments.
7.5.13.	Ability to generate multiple Purchase Orders (A/T) against one RFQ to multiple vendors and vice-versa.
7.5.14.	Ability to create a Purchase Order with staggered delivery schedule item wise
7.5.15.	Ability to release schedules against a Purchase order for staggered delivery
7.5.16.	Ability to capture pre-defined Tolerances on Quantity ordered and received
7.5.17.	Ability to generate Annual Rate Contracts for various scenarios (quantity, rate etc)
7.5.18.	Ability to generate purchase orders with quantity but no delivery schedule (contracts)
7.5.19.	Ability to view status of PO's and track the open PO's
7.5.20.	Ability to create PO tracking sheet capturing following information: Identification of any deviations from SLA, Turnaround time from the time of raising of requisition and receipt of materials; delay by vendor in the delivery of material, GRNs raise against a particular PO
7.5.21.	Ability to compare offered rates with estimates and/or last PO rate and report variances
7.5.22.	Ability to generate release orders against an open/rate contract PO as and when material is required.
7.5.23.	Ability to capture procurement patter in a year
7.5.24.	Ability to capture entire asset procurement cycle: asset requirement plan, Quotations, PR's, PO's, Asset receipt, deployment, capitalization, transferring, disposal etc
7.5.25.	Ability to capture cash purchase process
7.5.26.	Ability to query on Purchase order history by vendor, item code, PO number, MI No (material indent no), Delivery date etc.
7.5.27.	Ability to generate automatic reminders to vendors for delivery on time, quality complains ,hard copy of offer return if not open ,vendor rating ,document discrepancy etc.
7.5.28.	Ability to track payment / refund /Recovery status against PO
7.5.29.	Ability to track Bank Guarantee against advance, PBG against PO in terms of value, receipt and validity and raise alerts.
7.5.30.	Ability to link up performance related data along with payment
7.5.31.	Ability to refer PO for the creation of Good receipt
7.5.32.	Ability to update the inventory account automatically depending upon the Goods receipt
7.5.33.	Ability to amend / cancel /restore a Purchase Order
7.6.	**Contract Management**
7.6.1.	Ability to maintain contract related manuals, guidelines , policies, delegation of powers, etc., for centralized access to all
7.6.2.	Ability to update above information along with version control
7.6.3.	Ability to capture contract start and finish dates

S. No.	Functional Requirement
7.6.4.	Ability to track the history of previous tenders such as budget, number of tenders issued, number of contracts awarded, work effort etc.
7.6.5.	Ability to maintain the qualifying criteria in a parameterized form
7.6.6.	Ability to maintain versions and reason codes for tracking modification
7.6.7.	Ability to maintain the standard templates for the creation of tenders
7.6.8.	Ability to support different types of tendering : Open, Limited, Single
7.6.9.	Ability to configure workflow for review and approval of the type of tendering to be followed
7.6.10.	Ability to number the tender document
7.6.11.	Ability to populate the tender details from the information maintained in purchase requisition.
7.6.12.	Ability to modify unit of measure as per predefined parameters. Ability to maintain the conversion rates for unit of measure
7.6.13.	Ability to maintain the version control for tenders in case of amendment to the tenders
7.6.14.	Ability to circulate the amended tender with version number to all the eligible applicants in case of amendments.
7.6.15.	Ability to maintain reason code for amendments in the tender
7.6.16.	Ability to map the payment terms to the deliverables / procurement schedule in the tender.
7.6.17.	Ability to define the components, with respect to which, prices have to be quoted.
7.6.18.	Ability to generate the cost estimates for the tender based on the cost details maintained for the individual items and activities as mentioned in the purchase requisition / indent.
7.6.19.	Ability to maintain standard templates for Letter of Award and Letter of Intent
7.6.20.	Ability to support amendments in contract terms during execution based on change requests submitted by the contractors and evaluation of the same by the respective committees.
7.6.21.	Ability to define and configure the work flow for approval of amendments to the contract terms
7.6.22.	Ability to generate order after amendments are made to contract
7.6.23.	Ability to document each external/ internal correspondence against a contract for issue handling and progress review
7.6.24.	Ability to capture annual contracts with predetermined taxes/with quantity discounts but no predetermined rates/ rates or quantity discount revised after a predefined period
7.6.25.	Ability to capture contract expiry dates
7.6.26.	Ability to impose penalty if the project/job completion is exceeding the due dates through claims management functionality
7.6.27.	Ability to monitor contractor performance
7.6.28.	Ability to convert the EMD to security deposit for the contractor whom the work is awarded and refund of EMD to the unsuccessful bidders. Ability to refund the security deposit after the successful completion of the job with adjustments, if any.
7.6.29.	Ability to renew the contracts.
7.6.30.	Ability to accelerate the purchasing process by collaborating with approved suppliers/contractors online
7.6.31.	Ability to integrate the purchasing function with finance in order to process the payments
7.6.32.	Ability to update the status of certified bills pending for payment
7.6.33.	Ability to track contract value, service delivered and payment against the budget.

S. No.	Functional Requirement
7.6.34.	Ability to monitor the delivery schedules and tracking delays.

S. No.	Functional Requirement
7.7.	**Asset Management – Item Master**
7.7.1.	Ability to group all Assets and their spare parts based on parameters like Electronics, General, SOCIETY/BMC/CC consumables
7.7.2.	Provision to assign unique category code to each category
7.7.3.	Provision to assign item name in each category
7.7.4.	Ability to assign model, make, characteristic etc. to each item
7.7.5.	Ability to assign unique item code as defined by Union/CC using barcodes/RFID tags/manual numbering
7.7.6.	Feature to link each item to all types of vendors in vendor master
7.7.7.	Ability to attach Purchase Lead Time to each item
7.7.8.	Ability to attach rate contract as applicable
7.7.9.	Provision to attach Technical Write up, end user certificate for imported items
7.7.10.	Ability to capture excise tariff number / customs tariff number to the items
7.7.11.	Ability to capture inspection type - Receipt/ Pre-despatch/ Third party/ Joint/ sample/ performance Inspection
7.7.12.	Ability to link each item of an indent to equipment/ assembly/ component of a department
7.7.13.	Ability to track non-moving and obsolete items
7.8.	**Services Master**
7.8.1.	Ability to classify services as per their areas
7.8.2.	Ability to identify whether a service is covered under Annual Maintenance Contract or not
7.8.3.	Ability to generate unique service code for services done
7.8.4.	Ability to assign name corresponding to service code
7.8.5.	Provision to assign vendors to a service
7.8.6.	Ability to insert description of the service
7.8.7.	Provision to check existence of rate contract
7.8.8.	Provision to attach service entry sheet along with each service code
7.8.9.	Ability to gather details of service performed from supplier's offline
7.9.	**Stock Control**
7.9.1.	Ability to define certain category of items based on the item characteristics
7.9.2.	Ability to define the critical stock (items and level)
7.9.3.	Ability to keep the record of the critical stock and raise alerts when the stock has reached the defined level.
7.9.4.	Ability to raise indents along with details for items
7.9.5.	Ability to capture shelf life and re-order level details for items and automatically raise indents if inventory falls below re-order level
7.9.6.	Provision for the past years consumption details and patterns to be made available
7.9.7.	Ability to maintain various review period policies like 6/12/18 months are maintained depending upon the lead time and rate of consumption
7.9.8.	Provision to read asset tag every time during transfer and record the transfer details
7.9.9.	Provision for forecasting and scheduling the Asset requirement based on the previous trends
7.10.	**Asset Tracking & Maintenance**
7.10.1.	Provision to carry out Lifecycle Management of Assets by using the unique Item ID assigned to itby system. Key information to be captured are:

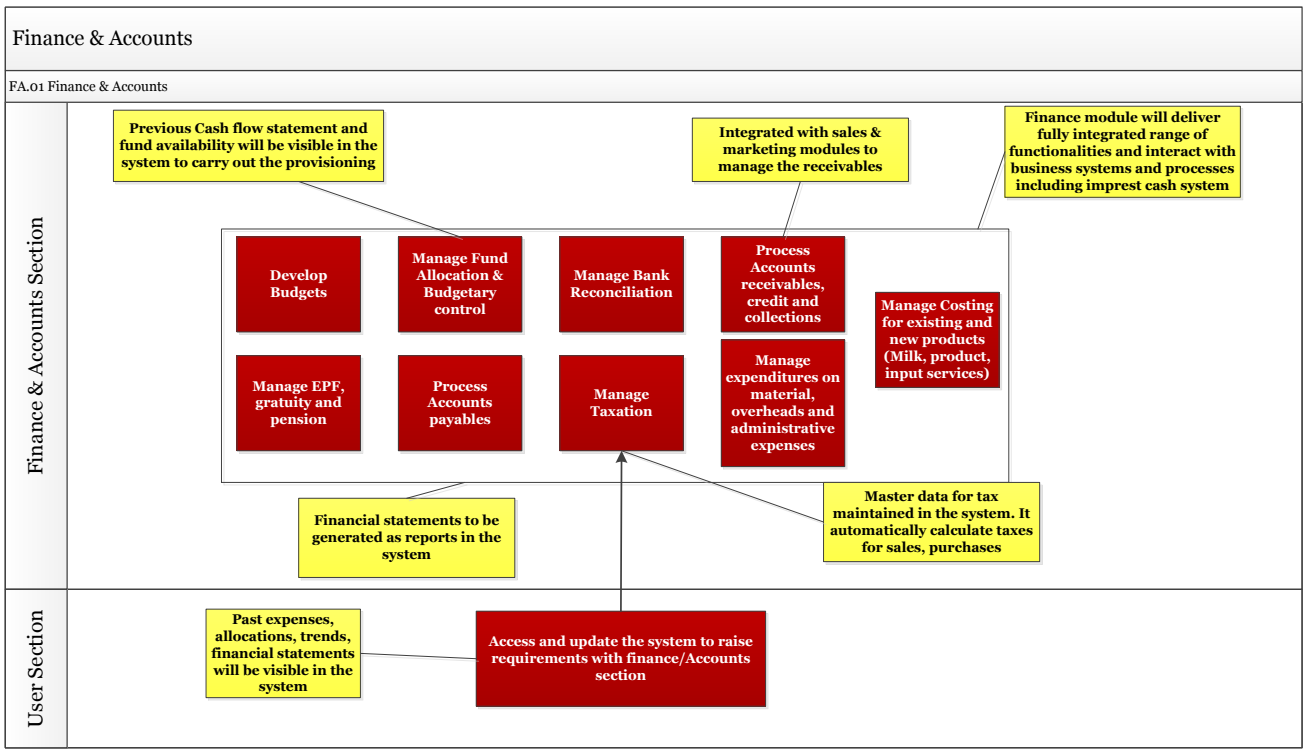
S. No.	Functional Requirement
	(a)Utility Consumption and Asset usage (b)Maintenance down time analysis (c)Mean Time Between Faliure information
7.10.2.	Ability to record the asset performance details (for all the assets at SOCIETY, BMC, CC level)
7.10.3.	Ability to generate the comparison report of the Asset performance with respect to the defined benchmarks for performance evaluation.
7.10.4.	Provision to raise maintenance service request at SOCIETY & CC level by using central system
7.10.5.	Maintenance service requests can also be raised by calling a service centre operator and mentioning the details. Provision required in the system to raise such a request by the personnel on behalf of the caller by manually entering the details received over phone call
7.10.6.	Maintenance Service Request can also be raised by sending an SMS to the defined phone number. There should be a provision in the system to read the details in the SMS and create a service request (SR).
7.10.7.	Ability to send the acknowledgement SMS/email to the requester.
7.10.8.	Ability to update the Service request status to the requester via SMS or email
7.10.9.	Ability to assign the service request to a designated personnel
7.10.10.	Ability to track the status of a service request in the system until closure
7.10.11.	Ability to maintain Asset write offs
7.11.	**Asset Verification**
7.11.1.	Provision to schedule category wise / location wise verification of all assets and generate periodic reminders for the same
7.11.2.	Provision to upload details of physical verification like working state of the asset and mention of any damaged/lost asset
7.11.3.	Provision for comparison of entered data against benchmarks in the system to decide the working state of asset
7.11.4.	Provision to define benchmarks against which verification parameters are to be compared and criticality for assets decided
7.11.5.	Provision to generate asset verification report from the compiled data. Reports should be made available in the central system
7.12.	**Budget**
7.12.1.	Ability to define various types of budget like revenue, capital etc.
7.12.2.	Ability to define and gather requirements under revenue as Consumption and Procurement budget
7.12.3.	Ability to gather requirements from various works department as consumption budget and consolidate the same for department cost centre wise
7.12.4.	Ability to send the requested budget for approval and then to Finance
7.12.5.	Ability to arrive at procurement budget based on inventory and dues in from consumption
7.12.6.	Ability to gather requirements under special schemes
7.12.7.	Ability to gather requirement for under capital budget
7.12.8.	Ability to submit proposals and approval based on DOP and committees
7.12.9.	Ability to declare non-plan budget for capital expenditure

S. No.	Functional Requirement
7.12.10.	After approval of budget ability to distribute budget cost centre wise

9.8. Finance & Accounts

9.8.1. Finance & Accounts

9.8.1.1. Process Map


Finance & Accounts
FA.01 Finance & Accounts
Finance & Accounts Section
User Section
Previous Cash flow statement and fund availability will be visible in the system to carry out the provisioning
Integrated with sales & marketing modules to manage the receivables
Finance module will deliver fully integrated range of functionalities and interact with business systems and processes including imprest cash system
Develop Budgets
Manage Fund Allocation & Budgetary control
Manage Bank Reconciliation
Process Accounts receivables, credit and collections
Manage Costing for existing and new products (Milk, product, input services)
Manage EPF, gratuity and pension
Process Accounts payables
Manage Taxation
Manage expenditures on material, overheads and administrative expenses
Financial statements to be generated as reports in the system
Master data for tax maintained in the system. It automatically calculate taxes for sales, purchases
Past expenses, allocations, trends, financial statements will be visible in the system
Access and update the system to raise requirements with finance/Accounts section

9.8.1.2. Process Description

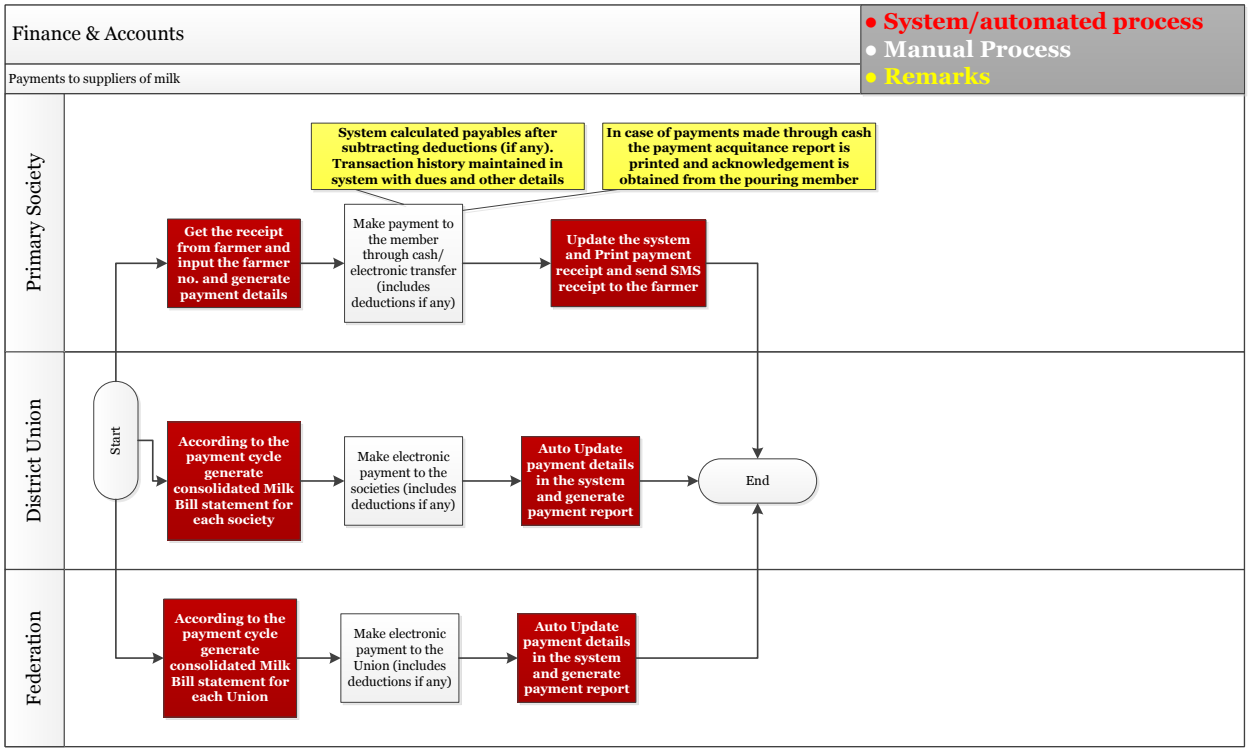
Sl. No.	Activity	Process Owner
1	Manage Budgets & Fund Allocation	
	Budget preparation to be online, each section prepares its own budget and sends for approval in the system. Multiple versions of budget can be prepared. However, the approved budget will be in active mode in the database.	User Section in charge
	The allocated budget shall be matched with the expenditure. In case of the allocated budget reaching the exhaustion threshold limit, alerts to be sent to the concerned personnel as defined in the system. For further allocation/Revised Budget Estimates, permissions have to be obtained based on workflow.	User Section in charge
	Special provisions can be given in case of emergencies (such as flood, etc.) Previous Cash flow statement and fund availability will be visible in the system to carry out the provisioning of funds to respective units	Finance Section in charge
2	Bank Reconciliation	
	Reconciliation would be an automatic process based on the data available in the systems. Bank and other statements need be uploaded and these would be reconciled with the	Accounts Section in charge

	books of accounts in the system. Approval of the reconciliation can still be obtained in the system.	
3	Manage Receivables	
	Recording and consolidation of collections, receivables across the channels (Milk Card sales, Cash sales, upcountry sales, agencies, institutions for milk and Parlors, FROs, agencies for products)	Zonal offices, Control rooms in chage
	Accounting of collections and adjustment against receivable invoices/credit note/debit note	Accounts section at Marketing office
	Generation of pay slips to facilitate deposits of cheques in to the bank	Accounts section at Marketing office
	Generation and accounting of Debit Notes / Credit Notes raised/issued to customers against Order Acceptance, Work Order, etc.	Accounts section at Marketing office
	System to provide allocation of security deposits against respective vendors as defined in the system	Accounts section at Marketing office
4	Manage Payables	
	Preparation Voucher and Note order in the system and send for approval by competent authority	Cashier/ User section in charge
	Uploading of relevant supporting documents including stock, compliances, etc. are uploaded along with the voucher	User section in charge
	After approval the voucher is passed by the accountant and the accountant will take the approved Journal Voucher and prepare the Bank Payment Voucher (BPV) and necessary entries are made in the system.	Accounts Section in charge
	The cheque is then handed over to the concerned persons and gets the acknowledgment for the same. This payment can also be processed online.	Payments wing in Accounts section
	The payment of advances must follow the standard payment process. Recovery of advances from employees should follow the standard Payroll process	Payroll wing in Accounts Section
	Recovery of advances from others is generally from the regular invoices submitted as per policy and agreements	Payroll wing in Accounts Section
5	Maintenance of Accounts	
	Opening and Closing of accounts through proper workflow based system	Accounts Section in charge
	Multiple accounting periods as weekly, monthly, quarterly, yearly, user defined, etc.	Accounts Section in charge
	Period-end processing at any point in time, as well as multiple times, after the end of the period	Accounts Section in charge
	Close at end of period by Fund, Account, Project, Department, etc.	Accounts Section in charge
6	Manage Taxation	
	Master data for tax maintained in the system	Accounts Section in charge
	Calculate taxes for sales, purchases and maintain various types of taxes such as income tax service tax, sales tax, TDS, fringe benefit tax, various tax rates applicable to a specified type of tax, different forms for tax claiming.	Accounts Section in charge
	VAT input credit and reversal as per service tax laws to be maintained in the system	Accounts Section in charge
	Integrate with the payroll system to automatically calculate TDS from employees' salary and IT return filing	Accounts Section in charge

Manage Costing	
Uploading consumption details of various components such as raw materials, overheads, etc. cost center wise details	User Section in charge
Calculation of costing for the period based on the actual consumption reports available in the system	User Section in charge
Consolidation of sales data from various profit centers	Marketing unit in charge
Apportionment of Costing based on the basis available in the system and arrive at the final approved costing sheet (Milk/Products)	Accounts section at Head office

9.8.2. Manage payments to suppliers of milk

9.8.2.1. Process Map


Finance & Accounts
Payments to suppliers of milk
• System/automated process
• Manual Process
• Remarks
Primary Society
District Union
Federation
System calculated payables after subtracting deductions (if any). Transaction history maintained in system with dues and other details
In case of payments made through cash the payment acquitance report is printed and acknowledgement is obtained from the pouring member
Get the receipt from farmer and input the farmer no. and generate payment details
Make payment to the member through cash/ electronic transfer (includes deductions if any)
Update the system and Print payment receipt and send SMS receipt to the farmer
Start
According to the payment cycle generate consolidated Milk Bill statement for each society
Make electronic payment to the societies (includes deductions if any)
Auto Update payment details in the system and generate payment report
End
According to the payment cycle generate consolidated Milk Bill statement for each Union
Make electronic payment to the Union (includes deductions if any)
Auto Update payment details in the system and generate payment report

9.8.2.2. Process Description

Sl. No.	Activity	Process Owner
1	Get the receipt from farmer and input the farmer membership number and generate payment details. Make payment to the member through cash/electronic transfer (includes deductions/ recoveries if any). System calculated payables after subtracting deductions (if any). Transaction history maintained in system with dues and other details. In case of payments made through cash the payment acquitance report is printed and acknowledgement is obtained from the pouring member. Update the system and Print payment receipt and send SMS receipt to the farmer.	Society Staff
2	According to the payment cycle generate consolidated Milk Bill statement for each society. Make electronic payment to the societies (includes deductions if any). Auto Update payment details in the system and generate payment report.	Finance section in charge at District Union
3	According to the payment cycle generate consolidated Milk Bill statement for each Union. Make electronic payment to the Union (includes deductions if any). Auto Update payment details in the system and generate payment report.	Finance section in charge at Federation

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
	Finance section at union/federation performs the following list of functionalities to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS: • Allocation of Fund • Maintenance of Accounts • Milk and Milk Products Revenue Monitoring • Internal Audit • Disbursement of Funds to internal offices • Grant and Loans disbursement and monitoring. • Budgeting yearly preparation (CAPEX and Revenue) and control • Bank reconciliation • Trial balance preparation and books of accounts preparation • Fixed asset register maintenance Milk account are managed at the different entities as described below: At society: Milk is received from the pourers at the society level as • Cow milk (identified based on fat % and upper limit of fat % to be defined) • Buffalo milk (identified based on fat % and lower limit for fat % to be defined in system). At society level milk disposal happens by way of local sales at society and sale to district union as cow and buffalo milk. . Separate and distinctive accounts for Cow, Buffalo and Mixed milk (mix of cow & buffalo milk) are to be kept in Kg., litres, Kg-Fat., Kg-SNF. **At CC, BMC, unions:** Milk is received from the societies with fat and SNF details. Milk has to be dispatched to Union Dairy and Federation Dairies. Separate and distinctive accounts for Cow, Buffalo and Mixed milk (mix of cow & buffalo milk) are to be kept in Kg., litres, Kg-Fat., Kg-SNF. At District union (FBD): 1. Receive milk by way of purchase from primary societies as cow and buffalo milk with definition as to Fat & SNF contents. 2. Chill the milk purchased from primary societies and store. 3. Pasteurise the milk purchased from primary societies and received from BMC & CC. 4. Draw the chilled/pasteurised milk from the stock and despatch to Federation Dairies on sale. 5. Draw pasteurised milk from stock for preparation of milk of different description of Fat% & SNF% in sachets and in bulk for sales. 6. Separate chilled/pasteurised milk into cream (Fat)and Skim milk (SNF). 7. Cream obtained through separation process is used for captive consumption, melting into ghee and making butter. The milk obtained in the process of butter making is added with skim milk. 8. Butter obtained from ghee is disposed on sale, captive consumption, in the preparation of milk for sale as stated in Sl. No. 5. and melting into ghee. 9. Ghee obtained by melting both from cream and butter is disposed on sale or on captive consumption in the preparation of sweets for sale. 10. Skim milk obtained on cream separation is disposed on sale, captive consumption, in the preparation of milk for sale as stated in Sl. No. 5 above and drying to yield Skim Milk Powder. 11. Skim Milk Powder is disposed on sale and captive consumption by reconstitution, in the preparation of milk for sale as stated in Sl. No. 5 above.

S. No.	Functional Requirement
12. To keep accounts for milk of different descriptions, cream, in litres, Kg, Kg-Fat & Kg-SNF and for butter, ghee and SMP in Kg. and SKU-wise. At Federation milk dairies: 1. Receive chilled and pasteurised cow milk, buffalo milk and mixed milk, from Dairies/Chilling Centres/Bulk Milk Coolers of the Unions, with definition on Fat & SNF contents, on purchse. 2. Pasteurise the chilled milk purchased from the Union and store the pasteurised milk. 3. Draw the milk from the storage for preparation of milk of different descriptions on Fat and SNF for sale in sachets and in bulk. 4. Despatch milk of different description in sachets and in bulk between milk Dairies of Federation. 5. To keep accounts for milk of different descriptions in litres, Kg, Kg-Fat and Kg-SNF. At Federation product dairy: 1. Receive chilled/pasteurised cow/buffalo milk on purchase from CC/BMC/Dairies of Unions with definition as to Fat & SNF contents and store. 2. Receive chilled milk/pasteurised cow/buffalo/mixed milk from other Dairies of Federation on transfer and store. 3. Draw cow/buffalo/mixed milk for manufacture of products like Milk Khova, Ice cream etc. 4. To keep separate and distinctive accounts for different types of milk in litres, Kg, Kg-Fat, kg, SNF. At Federation powder plant (Thiruvannamalai): 1. Receive chilled/pasteurised cow/buffalo milk on purchase from CC/BMC/Dairies of Unions with definition as to Fat & SNF contents and store. 2. Receive chilled milk/pasteurised cow/buffalo/mixed milk from other Federation dairies on transfer and store. 3. Draw stored milk for separation of cream and skim milk. 4. Cream obtained through separation process is used for making butter. The milk obtained in the process of butter making is added with skim milk. 5. Skim milk obtained on cream separation is disposed on sale, captive consumption, in the preparation of milk for sale and drying to yield Skim Milk Powder. 4. To keep separate and distinctive accounts for different types of milk in litres, Kg, Kg-Fat, Kg-SNF. 5. The existing system in Thiruvannamalai Dairy to account for milk and products should be synchronised with the system under IDMS.	
8.1.	**Payment to Pourers (farmer/ society/ union)**
8.1.1.	Ability to configure the system based on variable parameters
8.1.2.	Provision to create transactions for milk payments to Pourers based on Milk Collection Data
8.1.3.	Ability to ensure that payment processing for a cycle can only be executed once processing for previous payment cycles has been closed
8.1.4.	Provision to settle various earnings and deductions while calculating payment to Pourer in every cycle: -Milk payment for the cycle to be credited -Deductions for the input services availed by Pourer -Deduction for sale of Cattle Feed to Pourer on credit
8.1.5.	Provision to compile an entity wise payment summary sheet for all the payments due in that cycle. Payment sheet should contain the following key details: - entity Code, entity Name, Dispatched (Fat, SNF, Quantity), Actual (Fat, SNF, Quantity) -Pourer wise milk contribution detail along with Fat/SNF details and net payment due to each pourer
8.1.6.	Provision to compile an entity wise non-payment summary sheet for the payments

S. No.	Functional Requirement
	due in that cycle
8.1.7.	Provision for verification of payment details before sending details to bank for transaction.
8.1.8.	Provision to receive payment details from bank with a marked list of unsuccessful transactions
8.2.	**Return Payment to Pourer**
8.2.1.	Provision to fetch a list of unsuccessful transactions from the bank report along with account details and reason for payment failure
8.2.2.	Feature to compare the details of pourer as provided by bank to the current details stored in system and highlight discrepancies
8.2.3.	Provision to share an updated list of unresolved issues after removal of identified and resolved discrepancies
8.2.4.	Provision to manually resolve the discrepancies as and when identified and update the list by removing resolved issues. Finish payment of resolved issues by adding the amount due to the current payment cycle and update the status in the system
8.2.5.	Provision to prepare a final list of unresolved issues for further decision on payment
8.2.6.	Provision to retain and furnish non-payments with all details
8.3.	**Payment to Vendors**
8.3.1.	Provision to save and display all invoices and expense claims under appropriate headers like Transportation, input services etc.
8.3.2.	Provision to configure mandatory documents required (to be specified) for processing payment under various headers
8.3.3.	Provision to ensure all support documents have been uploaded/attached before processing request
8.3.4.	Provision to verify the bills and the validity of attached documents before finalizing payment
8.3.5.	Ability to define threshold limit for making payments to vendors and expenses by crossed cheque
8.3.6.	Ability to alert in case repeated advance is raised against the same party/ vendor/ firm/ supplier/ employee
8.4.	**Budgeting**
8.4.1.	Provision to initiate a budget forecast at the beginning of financial year on a pre-defined template
8.4.2.	Provision to capture region wise milk procurement forecast
8.4.3.	Ability to capture estimated expenses for operation
8.4.4.	Provision to review and approve a completed budget forecast template
8.4.5.	Ability to maintain top-down and bottom-up budgetary methods
8.4.6.	Provision to perform comparative assessment between actual vs budgeted procurement and expenditure
8.4.7.	Ability to present comparative assessment between projected and actual expenses for a chosen time period in a report format
8.5.	**Project Management Requirements**
8.5.1.	Ability to maintain separate account for the funded activities. All activities under the fundings will be posted in this account.
8.5.2.	Provision to generate the common order for project activities. System should have the ability to bifurcate the bill and capture distinctly these activities. All purchase for these activities should be posted to specific GL entries for the funded activities
8.5.3.	Ability to separately make the payment for the items purchased for activities funded under each project
8.5.4.	Ability to define in the system the activities which will be covered under all projects

S. No.	Functional Requirement
	(CAPEX/Revenue heads etc)
8.5.5.	Ability to manage and record the details of the fund released by the Project management Units (PMU) for the predefined activities.
8.5.6.	Ability to capture Project Implementation Plan. Project Implementation Plan will be capturing the following details: 5 Year plan Annual Plan Quarterly fund utilization reports (FUR)
8.5.7.	Provision to record the queries raised by the Auditors(Internal/Statutory)
8.5.8.	Ability to assign the Auditors queries to the concerned department/employee
8.5.9.	Ability to maintain the status of the Auditors queries.
8.5.10.	Ability to raise the alert in case the query is not resolved within the maximum time period defined in the system
8.5.11.	Ability to generate the MIS reports as per the pre-defined parameters/format
8.5.12.	Ability to procure the items as per the Standard bidding process
8.6.	**Milk Purchase Price**
8.6.1.	Provision to prepare entity wise milk price chart based on solids (Fat % & SNF %)
8.6.2.	Provision to enter the changes in price chart as per details received from the appropriate authority
8.6.3.	Provision to review and approve the changes to price chart.
8.6.4.	Provision to save the price revisions in database and reflect the same in the system
8.7.	**Milk Purchase price incentive computation**
8.7.1.	Provision to prepare Price Incentive Report at the end of every financial year
8.7.2.	Provision to share the Price Incentive Report with various Business Heads responsible for reviewing and finalizing the same
8.7.3.	Provision to share the finalized Price Incentive Report with Accounts for processing and disbursement of payment
8.8.	**Financial Books of Accounts**
8.8.1.	Ability to record details of the all the transactions
8.8.2.	Ability to define hierarchal level within the organization
8.8.3.	Ability to specify level of synchronization required for closing the financial periods by the other functions
8.8.4.	Ability to raise the alert to complete all pending activities before closure
8.8.5.	Ability to modify (add/ delete) new segments
8.8.6.	Provision to integrate G/L, accounts payable, accounts receivable with all the sub-ledgers and synchronize with the G/L in on-line, real-time manner
8.8.7.	Provision to allow addition/marked for deletion /modification to chart of accounts as per the requirement
8.8.8.	Provision for Financial module to be integrated with all other modules for line functions and support functions thus ensuring that the operational and financial books always reflect the same results
8.8.9.	Ability to post adjustment entries in closed period with proper audit trail and authorization
8.8.10.	Ability to identify expenses as (capital and revenue) on a pre-defined logic and should get posted automatically once the program has been executed on a specified date.
8.8.11.	Ability to define budgets (capital and revenue) for accounting years and periods for each budget head
8.8.12.	Ability to maintain multiple budget versions and enables control and validations on latest version number
8.8.13.	Ability to generate budget – based on past budget, past actual, estimates and

S. No.	Functional Requirement
	combination of more than one budget
8.8.14.	Provision to define aggregate budget for the entire year spread over various periods
8.8.15.	Ability to generate report on budget overruns for each budget head location/ unit wise
8.8.16.	Ability to prepare budget budgeting process, allocation of expenses on predefined basis, product category/ Variant wise profitability/ location wise profitability/ channel wise profitability; monitoring of actual against budget-sales and expenses; capital budge
8.8.17.	Ability to define rounding rules for currency at each G/L level or globally for all ledgers
8.8.18.	Ability to maintain the holiday calendar and define certain Ledger a/c not to be modified or entered on any holiday
8.8.19.	Ability to generate financial statements for each Business Division defined
8.8.20.	Ability to define different rate of interest along with the calculation procedure for each G/L account independently
8.8.21.	Ability to define different tax rates along with the calculation base and logic wherever required
8.8.22.	Availability of various document types for various types of financial transactions with option of manual numbering or system generated numbering for each of them
8.8.23.	Option to reset the numbering sequence for all documents per fiscal year.
8.8.24.	Ability to provide for profit centre business division/ unit wise P&L and balance sheet
8.8.25.	Allow Cash and Accrual based accounting
8.8.26.	Ability to support budgetary control & DOP control should be available in the system
8.8.27.	Ability to support asset / liability booking segments wise.
8.8.28.	Ability to support budget preparation SKU wise/ SKU group wise/department wise/ channel wise/ region wise/ location wise/ product category
8.8.29.	Ability to support accounting for security deposit and calculation of interest on security deposit amount should be from the system
8.8.30.	Ability to support calculation of accrued interest on security deposit/loans/advances/other payables and receivables on monthly/ quarterly/ yearly basis.
8.8.31.	Ability to make provisions for expenses from the system based on open items at the time of period closing
8.8.32.	Ability of the system to handle reporting under relevant Accounting standards
8.8.33.	Ability to generate receipts and charges of all accounts in the general ledger in the form monthly, quarterly, half-yearly and annual statements during each year with opening and closing balance of cash and cumulative figures for each ledger account
8.8.34.	Ability to support generation of monthly/quarterly/half-yearly and annual trail balance as consolidated report for the report and also for each unit of the organization
8.8.35.	Ability to capture profitability report on consignment basis
8.8.36.	Ability to maintain different period for accounts and controlling purposes
8.8.37.	Ability to record quality mark up for sorted graded produce
8.8.38.	Ability to generate monthly/quarterly/half-yearly and annual manufacturing, trading, profit & loss account and balance sheet for the organization and also for each unit of the organization
8.8.39.	Ability to support automatic accounting entries for accounts payable accounting, fixed asset accounting, accounts receivables accounting
8.8.40.	Ability to allow to maintain approval hierarchy and competent authority approval before the release of cash payment / receipt above the specified amount as per IT ACT
8.8.41.	Ability to stop double payments and have the check for double invoice

S. No.	Functional Requirement
8.8.42.	Ability to create provisions for all open GR before making provisions for the period.
8.8.43.	Ability to generate automatic reversal entries on the first day of next period for provision entries created at the period end
8.9.	**Fixed Asset**
8.9.1.	Ability to maintain details such as asset description, opening balance, depreciation retired /transfer, revaluation, custodian (owner), closing balance acquisition cost, acquisition date manufacturer and supplier, location, model number, warranty details
8.9.2.	Ability to support asset class/ asset group functionality
8.9.3.	Ability to maintain purchase details like purchase order number, goods receipt details, invoice numbers, and all corresponding dates
8.9.4.	Ability to provide the facility to build hierarchies within the asset code. This will help to maintain parent-child relationship
8.9.5.	Ability to generate asset tags to help in the process of physical verification process
8.9.6.	Ability to allow to maintain tag exception entry for physical verification of assets
8.9.7.	Ability to integrate with purchasing application to keep track of capital purchases and goods inwards against assets
8.9.8.	Ability to integrate with payable and general ledger applications for all payments for capital purchases
8.9.9.	Ability to automate creation of depreciation schedules and support simulation before final posting
8.9.10.	Ability to support depreciation calculation as per the rates of the Income Tax Act
8.9.11.	Ability support depreciation calculation as per company / organization rates
8.9.12.	Ability to support depreciation for income tax
8.9.13.	Ability to support the facility to combine cumulative depreciation account with asset account to show assets at book value
8.9.14.	Ability to provide the Flexibility of conversion of revenue and work in progress (WIP)expenditure to capital expenditure including pre-commissioning expenses
8.9.15.	Ability to provide for the facility to reverse capitalized expenditures
8.9.16.	Ability to allow integration with maintenance application to keep track of work orders against assets and related expenditure
8.9.17.	Ability to facilitate inter-location, inter-cost center or inter-company issues and transfers
8.9.18.	Ability for partial or full retirement of assets
8.9.19.	Ability to maintain asset insurance details
8.9.20.	Ability to State the cost of an asset for insurance calculations
8.9.21.	Ability Report to warn insurance policies expiry dates or premium due date
8.9.22.	Ability details of insurance companies dealt
8.9.23.	Ability record details of insurance
8.9.24.	Ability to generate payment schedules for leased, hire purchased, rented assets and insurance payable
8.9.25.	Ability to handle lease (both finance and operating lease) and hire purchase accounting & payments
8.9.26.	Ability to support the functionality of generation of report on depreciation postings on cost center/ user basis
8.9.27.	Ability to maintain details of assets addition/ deletions less/ more than the defined time period
8.9.28.	Ability to provide the facility to project, simulate, calculate and post depreciation details
8.9.29.	Ability to provide the facility to provide for the effect retrospective change in depreciation rate and method

S. No.	Functional Requirement
8.9.30.	Ability to provide the facility to write-off an asset below a particular amount
8.9.31.	Ability to handle impairment of assets and its accounting treatment
8.9.32.	Ability of the system to provide for capital commitment data linked to Purchase Orders.
8.9.33.	Ability to allow full and partial disposal of assets
8.9.34.	Ability to allow accounting of profit/ sale of fixed assets as per IT Act/ revaluation
8.9.35.	Ability to maintain details of purchase order and job order
8.9.36.	Ability to show commitment item net of advance
8.9.37.	Ability to allow to capitalize an asset prior to the input of date
8.9.38.	Ability to integrate with radio frequency identification (RFID) and update physical verification status of the asset
8.9.39.	Ability to provide for calculation of replacement value
8.9.40.	Ability to put reminder for next physical verification due date and to update the date of actual physical verification date.
8.10.	**Accounts Receivables and Payables**
8.10.1.	Ability to apply receipts against customer debits (against invoices)
8.10.2.	Ability to record various types of receipts in the form of cash, bank and credit card (and refunds by the same mode of payment)
8.10.3.	Ability to record receipts from customers at any location and adjust at the customer's AR location
8.10.4.	Ability to support advance receipts and normal AR receipts
8.10.5.	Ability to support bill wise adjustments
8.10.6.	Ability to support viewing of posting details of a particular receipt
8.10.7.	Ability to record bank receipts status as realized, unrealized or bounced
8.10.8.	Ability to reverse bounced or voided receipts and ability to block further supply till collection of dues
8.10.9.	Ability to facilitate to define different document series for different types of receipts
8.10.10.	Ability to support the use of manual or system-generated serial number for receipts
8.10.11.	Ability to facilitate document serial numbers differentiation for receipts deposited in different bank accounts
8.10.12.	Ability to enter the document number against which the note is raised
8.10.13.	Ability to define multiple document series
8.10.14.	Ability to generate note numbers automatically / manually
8.10.15.	Ability to generate credit/ debit notes to customers based on promotional schemes applicable (logic defined in the scheme master)
8.10.16.	Ability to generate credit notes based on sales returns and sales adjustment
8.10.17.	Ability to default currency from the customer group currencies
8.10.18.	Ability to define the account numbers into which the credit/debit note amount should be posted
8.10.19.	Ability to record of initial balances as backdated transactions (invoices, memos, receipts) through use of system parameters
8.10.20.	Ability to record of initial balances and other details with ageing
8.10.21.	Ability to support the facility to set up starting credit limit position of customer
8.10.22.	Ability to record balances in customer's transacting currencies
8.10.23.	Ability to define initial balances as a credit or debit entry
8.10.24.	Ability to generate report on year-to-date payments made
8.10.25.	Ability to provide details of discounts offered to customers
8.10.26.	Ability to generate report on debtors ageing for different parameters
8.10.27.	Ability to generate receivables report item wise and total quantity sold in quantity and value

S. No.	Functional Requirement
8.10.28.	Ability to generate report on Cheques dishonoured and amount recovered from customers along with the reason code and amount recoverable from customers
8.10.29.	Ability to provide for customer ledger balances with quantity and value and a report on total money collected, outstanding statement.
8.10.30.	Ability to record advances received
8.10.31.	Ability to generate a report on sales commission payable
8.10.32.	Ability to maintain single ledger for customer where partner functions such as ship to party, bill to party are present.
8.10.33.	Ability to generate report on provision made for bad debts on year to date basis
8.10.34.	Ability to generate report on sales discrepancies / shortages reported
8.10.35.	Ability to provide for sales margin/ discounts customer wise as per prescribed guidelines
8.10.36.	Ability to provide for the facility to record bank guarantee or any other securities against customer master, alert before expiry, customer wise report
8.10.37.	Ability to support automatic posting for sales accounting and invoice processing online
8.10.38.	Ability to support the functionality of maintaining credit limits in both period and value and to stop processing of invoices in case of over dues
8.10.39.	Ability to support the functionality of bill discounting of negotiable instruments
8.10.40.	Ability to support the functionality of having an intermediary account to post a single entry to main bank
8.10.41.	Ability to support direct purchase or purchase order (PO) based invoice entry with payment schedules
8.10.42.	Ability to allow to enter invoices for adhoc purchases, regular and service PO
8.10.43.	Ability to support associate PO-based invoices with corresponding transactions like Purchase order and / or goods receipt note (GRN)
8.10.44.	Ability to support debit/ credit note for any type of differences
8.10.45.	Ability to support different rates for different line items for the same PO.
8.10.46.	Ability to support automatic generation of accounting entries for PO-based invoices from PO / GRN details
8.10.47.	Ability to provide reference and match PO-based invoices with the PO / GRN
8.10.48.	Ability to record details of the associated tax and miscellaneous charges
8.10.49.	Ability to specify if taxes / charges are to be calculated for each item in the invoice or the Whole invoice
8.10.50.	Ability to define payment schedules for invoices together with associated discounts and penalties
8.10.51.	Ability to indicate if discounts are based on individual invoice values or gross invoice value
8.10.52.	Ability to specify if payments are to be made to third parties in case of PO-based invoices.
8.10.53.	Ability to view vendor addresses and modifying them in case of one-time vendors
8.10.54.	Ability to record asset related information from invoices relating to capital purchases
8.10.55.	Ability to capture additional details like vendor's invoice number and date
8.10.56.	Ability to raise item based credit and debit notes
8.10.57.	Ability to track over-invoicing, return of goods and increase in prices
8.10.58.	Ability to record advances against vendor with reference to a general reference, multiple purchase orders or multiple proforma invoices
8.10.59.	Ability to provide for regular and automatic adjustment of invoices / credit notes with pre payments/ debit notes

S. No.	Functional Requirement
8.10.60.	Ability to support online processing of payment vouchers, bulk payment and payment across multiple bank accounts and authorization through work flow.
8.10.61.	Ability to facilitate payment to vendors after adjusting prepayments and debit notes
8.10.62.	Ability to support the functionality of maintaining vendor as customer and its set off
8.10.63.	Ability to support processing of transportation bills on the basis of per unit of product/ per km/per route/ per month (period)/ per trip
8.10.64.	Ability to provide for a report on transporter payments along with the quantity of milk carried and shortages reported
8.10.65.	Does the system provide for single/ multiple Cheques printing for single and multiple line items of Bank Payment and multiple bank payments
8.10.66.	Does the system provide for single/ multiple Cheques printing for single and multiple line items of Bank Payment and multiple bank payments
8.10.67.	Analytical, summary and standard reports that provide an accurate picture of the accounts payable including invoice, TDS, payment amount
8.10.68.	Ability to calculate payment due as per the terms and conditions
8.10.69.	Ability to allow workflow for streamlining work processes and alert for the approval, pending items for approval
8.10.70.	Ability to generate report on year-to-date payments made to the vendor
8.10.71.	Ability to allow to capture information of shortages and accounting for recovering from the transporters
8.10.72.	Ability to support receipt of money from vendors (e.g recoveries, advances etc.)
8.10.73.	Ability to transfer vendor balances from one vendor to another
8.10.74.	Ability to provide details of discounts offered by vendors
8.10.75.	Ability to generate report on discounts availed by the company
8.10.76.	Ability to support vendor ageing
8.10.77.	Ability to maintain various types of taxes such as income tax service tax, sales tax, TDS, fringe benefit tax
8.10.78.	Ability to maintain for the period for which specific tax rate is applicable
8.10.79.	Ability to maintain various tax rates applicable to a specified type of tax
8.10.80.	Ability to provide for different forms to provided and maintained for claiming a lower rate of taxes up to a certain amount and period
8.10.81.	Ability to allow rounding up of taxes as per the guidelines
8.10.82.	Ability to allow rounding up of the amount for each line item
8.10.83.	Ability to generate purchase register for different parameters
8.10.84.	Ability to provide for VAT input credit and VAT reversal on stock transfer
8.10.85.	Ability to transfer VAT balances to Sales Tax Payable A/c at the month end automatically
8.10.86.	Ability to configure VAT Credit as per Service Tax laws
8.10.87.	Ability to generate sales register
8.10.88.	Ability to provide for annual / quarterly / monthly tax returns (periodic returns) including service tax IT, Sales Tax, etc
8.10.89.	Ability to generate TDS certificate for income tax and WCT
8.10.90.	Ability to maintain TDS deducted and TDS payable reconciliation
8.10.91.	Ability to generate deferred tax calculations and ability to generate report on the same
8.10.92.	Ability of the system to adapt to changes in statutes such as the taxation related changes
8.10.93.	Ability to generate report on octroi paid - with period, amount, item rate
8.10.94.	Ability to automatically transfer to debit balances of a creditor account and vice versa and system to have a control checks on transfer of unclaimed balances
8.11.	**Cash Management**

S. No.	Functional Requirement
8.11.1.	Ability to generate bank vouchers (receipts and payments)
8.11.2.	Ability to show cash book with daily cash balance and close cash book with denominations of currency notes for cash in hand.
8.11.3.	Ability to provide for Automatic bank reconciliation statement and provide year end closing entries to be carried forward
8.11.4.	Ability to record / generate cash receipts
8.11.5.	Ability to generate bank book for each bank account
8.11.6.	Ability to maintain Cheques lots account wise in the system
8.11.7.	Ability to configure an error message when cash in hand account goes negative
8.11.8.	Ability to maintain credit balance in current account
8.11.9.	Ability to display funds position and displays a message when the bank balance crosses the threshold limit
8.11.10.	Ability to generate cash flow statement on real-time
8.11.11.	Ability to maintain bank overdraft limit
8.11.12.	Ability to generate report on opening balance, security deposit amount received, settled and amount of interest paid/ accrued; calculation of interest on security deposit for specified period at given rate
8.11.13.	Ability to calculate notional interest
8.11.14.	Ability to generate report on accrued interest / interest payable on loans taken
8.11.15.	Ability to generate report on interest accrued on FDRs and other investments
8.11.16.	Alert on the due date for repayment of the loan given/ taken.
8.11.17.	Ability to calculate interest on loan at predefined rate for predefined period.
8.11.18.	Ability to generate statement of loan/ advance showing opening, addition, recovery, closing, interest etc
8.11.19.	Provision to use same tax code with different rates over different validity periods
8.12.	**Costing**
8.12.1.	Ability to define cost centres / units according to areas of responsibility
8.12.2.	Ability to define cost units where a cost unit is an analytical entity for which costs need to be collected. For example a product line, a customer, a product line meant for a customer and so on.
8.12.3.	Ability to maintain cost element for profit & loss general accounts to capture expense cost
8.12.4.	Ability to map defined normal and allocation elements to a specified cost center / unit or all detail level cost center / units
8.12.5.	Ability to maintain multiple hierarchical structures for cost centres / units for cost aggregation and analysis
8.12.6.	Ability to form different hierarchical structures with cost centres / units and record structure IDs to be used for reports
8.12.7.	Ability to capture actual variable cost SKU wise to be shown and taken for costing of products and how SKU wise/ variant wise costing is to be done
8.12.8.	Ability to handle handling loss and recoveries for a period and year to date
8.12.9.	Ability to capture and allocate actual fixed cost SKU wise and calculation of actual profit / loss after charging off total actual fixed cost SKU wise
8.12.10.	Ability to support dual unit of measurement (UoM) • conversion from one UoM to another • Weighted average cost of fat / SNF for a period and YTD • Facility to allocate costs among cost centres / units to represent the internal value flow System should have the ability to maintain milk accounts as applicable at the different

S. No.	Functional Requirement
	entities
8.12.11.	Ability to support budgets – budgets listing (parameters, cost center / unit, cost center / unit cost element, product, product cost budget and flexible budget)
8.12.12.	Ability to calculate location wise profitability
8.12.13.	Ability to generate a report on actual Vs budgeted profitability for a segment, category, channel, location, unit etc.
8.12.14.	Ability to automatically calculates cost for each activity and allocates to respective product
8.12.15.	Ability of the system to configure and generate Business Review Meeting (BRM) reports
8.12.16.	Ability to provide to maintain Product cost sheet
8.12.17.	Ability to enable computation of standard rates for items and updating inventory with the provision to load additional cost on the items
8.12.18.	Ability to compare and perform variance calculation
8.12.19.	Ability to provide the facility to derive item wise standard costs or moving average cost as the case may be.
8.12.20.	Ability to provide for WIP reporting
8.12.21.	Ability to provide for activity based costing
8.12.22.	Ability to allow for cost settlement at the time of closing of production order.
8.12.23.	Ability to carry out closing stock valuation
8.12.24.	Ability to capture profitability per segment/unit
8.12.25.	Ability to capture profitability per product SKU wise
8.12.26.	Ability to capture item wise whole sale price per item.
8.12.27.	Ability to record final retail modal price
8.12.28.	Ability to record cost sheet per product SKU wise
8.12.29.	Ability to simulate/ actual on daily/ monthly reports • Margin Monitoring Report item/grade wise • Margin Monitoring Report-Summary • Landed Vs Modal Vs Sale Price comparison • Item Wise comparison of landed vs. modal on arrival. • Department wise
8.12.30.	Ability to maintain and provide for ratio analysis such as return on capital employed, debt- equity ratio, current ratio, liquid ratio, debt service coverage ratio, stock turnover, debtors turnover etc
8.12.31.	Ability to provide for sensitivity analysis, 'what -if' analysis and simulations
8.12.32.	Ability to provide for contribution analysis and breakeven point (BEP) location wise/ unit wise/ SKU wise
8.12.33.	Ability to display an alert message when the sale price less than COGS
8.12.34.	Ability to value stock at market realizable value
8.12.35.	Cost of Fat & SNF released at plant must synchronise with milk procurement price changes. This Functionality should be available to avoid too much variance.
8.13.	**Manage Taxation**
8.13.1.	Flexibility in the system to adopt all changes introduced by government towards statutory recovery and payments such as TDS,WCT, Service Tax etc., example: introduction of surcharge, cess etc.,
8.13.2.	Automated compliance (including accounting, reporting and filing) for excise / CENVAT, Sales Tax, VAT, etc. as per applicable statutory requirements.
8.13.3.	Automate invoice creation for Sales Tax / VAT in name of statutory authorities.
8.13.4.	Centralized Vendor Master with appropriate vendor classification / categorization flag and provision to capture PAN, TIN No,CST No., Service Tax Registration No. etc.

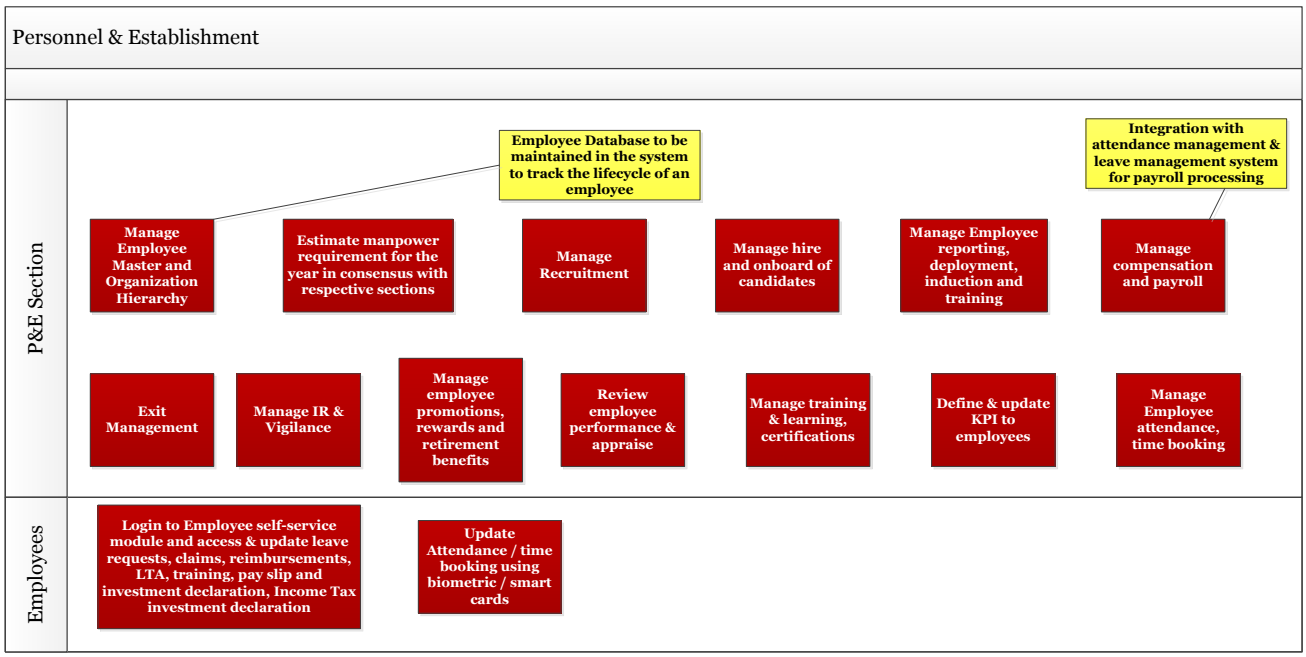
S. No.	Functional Requirement
8.13.5.	System control for calculation of TNVAT/Cenvat credit and reversal of credit as per statutory norms
8.13.6.	Ability to calculate service tax on freight and other reverse charge items paid to transporters and system control to allow credit based on the prescribed eligible and ineligible percentage.
8.13.7.	Ability to calculate service tax amount paid to vendors for services rendered at factory, corporate office etc and system control to allow credit based on the prescribed eligible and ineligible percentage.
8.13.8.	Ability to generate automatic accounting of journal entries for all eligible and ineligible credits for all locations.
8.13.9.	Ability to capture TDS details as per the services provided by the vendor.
8.13.10.	Automatic default (in case of single code applicability) / Selection of TDS code (in case of multiple code applicability) and corresponding accounting should be allowed by the system based on status of contractor / supplier and nature of services.
8.13.11.	Ability to generate a single/multiple "C" Form from the system, covering all invoices relating to one quarter against a single vendor for one Order. The single "C" Form should be in accordance with the State / Assessment Area.
8.13.12.	System control on TDS amount accounted and deducted from the invoice created keeping track of statutory limit beyond which tax has to be deducted at source including retrospective calculation, deduction and return filing.
8.13.13.	Ability to calculate TDS on the provision created on 31st march for the payments due. Ability to generate TDS invoice for the calculated amount as per Income Tax Act.Facility to adjust/setoff tax amount against receipt of actual invoices from the party subsequently.
8.13.14.	Ability to Comply with Income Tax Unique Transaction Number (UTN)
8.13.15.	Ability to monitor and calculate TDS amount based on concession rates as per the partys turnover.
8.13.16.	System control to modify TDS amount before the remittance.
8.13.17.	System to create TDS invoice generation as per the original invoice.
8.13.18.	System support for non calculation of TDS on commission or trade discount paid for quantity lifted on self account.
8.13.19.	Ability to support the Central Excise Registers and Returns like RT12 , RG23C,RG23A ,RG1 , PLA,Form ER1 , CT1,CT2 & CT3.
8.13.20.	Ability to support sales tax register and returns as per Rule 6, Form 1,Form I with Annexure.
8.13.21.	Ability to determine the amount to be paid under Cenvat /VAT
8.13.22.	Ability to facilitate calculation of purchase tax payable as per TNVAT Act and facility to pay tax amount to tax authorities and avail VAT credit.
8.13.23.	Ability to reconcile financial transactions with tax registers.
8.13.24.	Ability to support the E-returns process for Sales tax / Central Excise/TDS/TCS purpose.
8.14.	**EPF, EPS, NPS, Gratuity, Pension Fund, SSF**
8.14.1.	Ability to capture investment details made by EPF & EPS Trust for all the entities at Aavin.
8.14.2.	Ability to manage NPS, Gratuity, Pension fund, Super Annuation Fund
8.14.3.	Ability to maintain separate chart of accounts, Books, Investment Register etc . for the EPF Trust, Gratuity and SSF
8.14.4.	Ability to maintain separate Investment register.
8.14.5.	Ability to calculate and accounting of interest on investments.
8.14.6.	Ability to facilitate the calculation of investments receivable and interest receivable based on due date.

S. No.	Functional Requirement
8.14.7.	Ability to sanction the loans to members as per PF trust norms and maintain the details of the members.
8.14.8.	Ability to generate annual EPF accounts slip for the employee and ability for the employee to access the same online
8.14.9.	Ability to adjust the outstanding refundable loan before making new refundable loan / non-refundable / Final settlement.
8.14.10.	Ability to release payment to the members in the form of e-payments/cheques and ability to generate the advises accordingly.
8.14.11.	Ability to calculate interest due but not received, Interest accrued & due and Interest accrued but not due for any given date
8.14.12.	Ability to calculate interest provisionally and update the same on the declaration of statutory interest rate by trust
8.14.13.	Ability to maintain the details of members of the PF trust with respect to members contribution, employer's contribution etc.
8.14.14.	Ability to writeoff or writeback the difference between face value of investment and actual cost of investment over a period of maturity.
8.14.15.	Ability to run automated cash forecasting in system capturing inflows and outflows as per data in system.
8.14.16.	Ability to close books of account and generate reports as per the PF act requirement and generate financial statements.
8.14.17.	Ability to monitor the PF/ EPS payments by contractor.
8.14.18.	Flexibility in system to define cash forecasting templates as per requirement.
8.14.19.	Ability to manage settlement for retiring employees with prevailing interest rates
8.14.20.	Ability to generate statutory reports to file with RPF commissioner office

9.9. Personnel & Establishment

9.9.1. Personnel & Establishment

9.9.1.1. Process Map


Personnel & Establishment
P&E Section
Employees
Employee Database to be maintained in the system to track the lifecycle of an employee
Integration with attendance management & leave management system for payroll processing
Manage Employee Master and Organization Hierarchy
Estimate manpower requirement for the year in consensus with respective sections
Manage Recruitment
Manage hire and onboard of candidates
Manage Employee reporting, deployment, induction and training
Manage compensation and payroll
Exit Management
Manage IR & Vigilance
Manage employee promotions, rewards and retirement benefits
Review employee performance & appraise
Manage training & learning, certifications
Define & update KPI to employees
Manage Employee attendance, time booking
Login to Employee self-service module and access & update leave requests, claims, reimbursements, LTA, training, pay slip and investment declaration, Income Tax investment declaration
Update Attendance / time booking using biometric / smart cards

9.9.1.2. Process Description

Sl. No.	Activity	Process Owner
1	Creation, deletion, tracking of employee history, performance details etc. to be managed online	Recruitment wing in charge P&E section
2	Generation of offer letters for the selected candidates using standard templates/ formats available on central system	Recruitment wing in charge P&E section
3	All reports to be generated using central system HR team to use IDMS application interface to process	HR Section in charge
4	Attendance to be managed through integration with attendance management system	Admin Section in charge
5	Employees to raise requirement requests, feedbacks, grievance-suggestion etc through online employee self-service module. Online HR system would enable all functionalities to disseminate information	Employees
6	Process & update licensing, labour related issues, PF & ESIC activities	IR section in charge
7	Online application interface manage employee attendance, leaves, salary accounts updates, travel	Employees
8	Employees updates and maintain self-info using online application interface/ Employees self service module	Employees

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Personnel & Establishment section at union/federation performs the following functionalities that are to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS: • Maintaining of employee service register. • Maintaining of Employee Joining, Attendance, Leave, Promotions, Loans • Manage pay fixation, increments, periodic leave surrender, LTC, staff free milk card • Advances, EPF and ESI contributions, training and Retirement benefits. • Maintain confidential reports of employees and appraisals. • Manage medical claims and reimbursements • Manage health fund • Maintain Vehicle insurance records • Maintain local stock register • Keeping track of retirements and recruitments • Running of the employee payroll • Respond to RTI queries • Industrial Relations / Legal Disputes • Co-operative elections • Bylaws • Compassionate recruitment	
9.1.	**Personnel Management**
9.1.1.	Ability to store and maintain employee personal data such as ID, addresses, names, phone numbers, emergency contact information, and email addresses.
9.1.2.	Ability to maintain an employee's education qualification, certifications, degrees and any endorsements.
9.1.3.	Ability to maintain KYC compliance details of employees
9.1.4.	Ability to manage pay fixation, leave sanction, increments, periodic leave surrender, LTC, free milk card issue and monitoring
9.1.5.	Ability to maintain previous employment details like name of the organization, position held (designation), start/end dates, reason for leaving, last salary drawn etc.
9.1.6.	Ability to maintain names and contact details of spouse, children, parents, dependants, nominees under different schemes, etc.
9.1.7.	Ability to maintain employee's gender, date of birth, blood group, citizenship, marital status, religion, caste etc.
9.1.8.	Ability to update employee's recent photograph and other details
9.1.9.	Ability to maintain details of assets and liabilities of employees periodically
9.1.10.	Ability to maintain nomination details of employees periodically
9.1.11.	Ability to maintain employee's medical details after joining
9.1.12.	Ability to capture and maintain the details of employee's health problems
9.1.13.	Ability to maintain the languages known with details of speak, read and write separately. Clear indication for the mother tongue
9.1.14.	Ability to maintain the details of spouse and relatives in the service of the organization including name, personnel number, unit where working, designation with provision for automatic updation of records of the relative as and when it is updated for him by his controlling establishment
9.1.15.	Ability to maintain details of the dependents including relationship, their month & year

S. No.	Functional Requirement
	of birth, studying in school/college, monthly income/pension amount
9.1.16.	Ability to maintain history of trainings attended (prior to joining & after joining) like name of the course, name of the Institution, month & year of training, duration of the course in days/weeks etc.
9.1.17.	Ability to maintain the awards for which nominated / received by the employee including the name of the award, year of award, in which discipline/field and date of receipt of award and special status/ privilege, if any, to be given to him for the award
9.1.18.	Ability to maintain date of joining, probation period, date of confirmation in each grade/post
9.1.19.	Ability to maintain details of promotion from one grade / scale / discipline to another including any reappointment through internal selections
9.1.20.	Ability to maintain full transfer history of the employee including the current & new location, nature of transfer (self-initiated / company initiated), date of joining and date of relieving at different locations, number of times cancelled but kept in abeyance etc
9.1.21.	Ability to maintain present place of posting including name of the department, cost centre, present designation, grade etc.
9.1.22.	Ability to change employee status
9.1.23.	Ability to maintain data about type of employment, like 'Permanent', 'Contract', etc.
9.1.24.	Ability to maintain employee data with regards to claims, etc
9.1.25.	Ability to maintain employee data with respect to PF, Gratuity, etc. and the nominations for the same
9.1.26.	Ability to enter and maintain details of the office assets given to the employee
9.1.27.	Ability to maintain the insurance related details for each employee, like insurance number, nominee details, amount etc.
9.1.28.	Ability to preclude duplicate data entry by automatically accessing position and employee information already residing within the system
9.1.29.	Ability to maintain Audit trial of all changes made to sensitive information
9.1.30.	Ability to enable managers and human resources staffs to track past, current, and pending personnel actions.
9.1.31.	Ability to indicate whether the employee would be appraised for the year in which he joins the organisation
9.1.32.	Ability to generate a unique employee code once all the essential details for the new employee have been entered into the system
9.1.33.	Ability to generate an Appointment letter by picking up the relevant information from the employee record
9.1.34.	Ability to send reminders to concerned people in HR for taking action on: birthdays and anniversaries of employees, confirmation of employees, etc.
9.1.35.	Ability to enter the details of full and final settlement during the exit of an employee
9.1.36.	Ability to enter whether a person exiting from the company is 'Eligible for Rehiring'
9.1.37.	Ability to enter details of resignation, like date of resignation, release date, etc.
9.1.38.	Ability to enter the details of Exit interview
9.1.39.	Ability to enter details of 'No dues' clearance
9.1.40.	Support maintenance of history of performance appraisals
9.1.41.	Ability to do self appraisal
9.1.42.	Ability to provide report of the completion status of performance appraisals for all the employees in the organisation
9.1.43.	Ability to provide Performance appraisal report containing the final rating for each employee
9.1.44.	Ability to track and record the full range of employee, management, or third party generated appeals and grievances

S. No.	Functional Requirement
9.1.45.	Ability to send reminder to HR for starting the confirmation process for the employee in line with the probation period entered during the creation of employee record
9.1.46.	Ability to generate a Confirmation letter by picking up the relevant information from the employee record
9.1.47.	Ability to extend the probation if not confirmed at the end of the probation period
9.1.48.	Ability to define different probation periods for different employees
9.1.49.	Ability to provide reports of employees based on the categorisation of Length of Service, Age, Qualification, Designation, type of employment, etc.
9.1.50.	Ability to create position profiles and competency matrix
9.1.51.	Ability to upload position profiles and competency matrix onto system if required
9.1.52.	Ability to route the submitted form automatically to the concerned reporting manager
9.2.	**Personal Development**
9.2.1.	Ability to upload the details of the training needs onto the system
9.2.2.	Ability to upload the training plan and budget onto the system with the following details: • Schedule of the training modules / programmes • Observer for each of the training programmes • Approximate cost for the training programmes • Names of employees expected to attend the respective trainings
9.2.3.	Ability to upload training cost for each session and automatically update the remaining training budget after each training session
9.2.4.	Ability to upload training material onto the system
9.2.5.	Ability to enter the attendance and training feedback for each session
9.2.6.	Ability to update the training plan in case of any modifications
9.2.7.	Ability to enter the training details such as number of training hours, type of training, etc. for each of the employees as and when they attend a training programme
9.2.8.	Ability to enter the period after which the post training analysis is to be organised
9.2.9.	Ability to send reminder to HR for conducting the post training analysis for the employee in line with the period entered
9.2.10.	Ability to enter training evaluation scores for the employees
9.2.11.	Ability to store minimum score required by the employee for closing the training gap
9.2.12.	Ability to automatically close the training gap if the evaluation score is above the threshold
9.2.13.	Ability to capture training needs automatically from Performance appraisal module and the Competency mapping module
9.2.14.	Ability to shortlist participants for various training courses based on skill requirements
9.2.15.	Ability to maintain external certifications obtained by employee
9.2.16.	Ability to produce individual and departmental training reports.
9.3.	**Time Management**
9.3.1.	Ability to maintain the record of the attendance of the employees
9.3.2.	System at field level (BMC/CC) should have the provision to integrate and record attendance of the employees from Biometric/smart card reader or GSM/mobile based attendance tracking system
9.3.3.	Provision for the system at field level (BMC/CC) to upload the attendance details to the central server
9.3.4.	Ability to maintain and view employee leave details
9.3.5.	Ability to apply for leave through the system
9.3.6.	Ability to store the rules of the leave policy, (for e.g. the employee's eligibility for number of privileged leave, casual leaves, etc.), leave approver for each employee, etc.
9.3.7.	Ability to automatically calculate the leave balance as and when the leave is applied and

S. No.	Functional Requirement
	to reverse it when the leave application is cancelled
9.3.8.	Ability to link the attendance and leave system such that leave details are automatically updated in the attendance system
9.3.9.	Ability to automatically route the leave application to the concerned approver
9.3.10.	Ability to mention the reason for leave
9.3.11.	Ability to mention reason for rejecting a leave application
9.3.12.	Ability to cancel the leave application when the approval is pending
9.3.13.	Ability to capture data from the employee access system
9.3.14.	Ability to upload attendance data of employees onto the system
9.3.15.	Ability to enter attendance by HR as per the Attendance regularisation form approved by the reporting officer
9.4.	**Organization Management**
9.4.1.	Ability to provide restricted access to different classes of employee master data
9.4.2.	Ability to upload and maintain the Job Description for the employee
9.4.3.	Ability to present a visual representation of the organ gram including work levels and functional reporting relationships
9.4.4.	Ability to drill down facilities to access information of the employees at various levels - to go from organization level to sub levels like Unit level, department level and employee level
9.4.5.	Ability to indicate details of each position, whether vacant or occupied and name of the person occupying the position currently
9.4.6.	Ability to link the data in the organisational chart with the employee database such that as and when a person gets appointed, the name automatically reflects in the Org Chart. Similarly reflecting a position as vacant when the employee status is changed after the exit of an employee.
9.4.7.	Ability to add or remove positions in organ chart
9.4.8.	Ability to enable managers to initiate the full range of recruitment-based actions and flow these actions to the appropriate individuals and offices for approvals and processing.
9.4.9.	Ability to provide a means for applicants and employees to apply as either external or internal candidates for vacant positions.
9.4.10.	Ability to provide expert or decision support capabilities to generate documentation needed to complete the recruitment process using position-based requirements,
9.4.11.	Ability to allow managers to receive and act upon referral lists, resumes that contain appropriate candidate qualification information, and fully take into account regulatory requirements.
9.5.	**Payroll System**
9.5.1.	Ability to maintain payroll and other benefits details
9.5.2.	Ability to give access to view payroll details to designated person in Finance and accounts department
9.5.3.	Ability to calculate gross pay, fixed deductions, variable deductions, recoveries, net pay, employee, employer contributions and IT TDS for each employee on every month.
9.5.4.	Ability to calculate pay and generate paybill and relevant recovery schedules at the end of each month after properly authorized inputs have been received from the Time and Attendance Processing Function, and after personnel action processing is completed.
9.5.5.	Ability to process prior period, current, and future period pay actions, based on effective dates
9.5.6.	Ability to process current-period and prior-period adjustments as an integral part of the payroll cycle
9.5.7.	Ability to generate last paid certificate (LPC) based on details of last pay drawn and

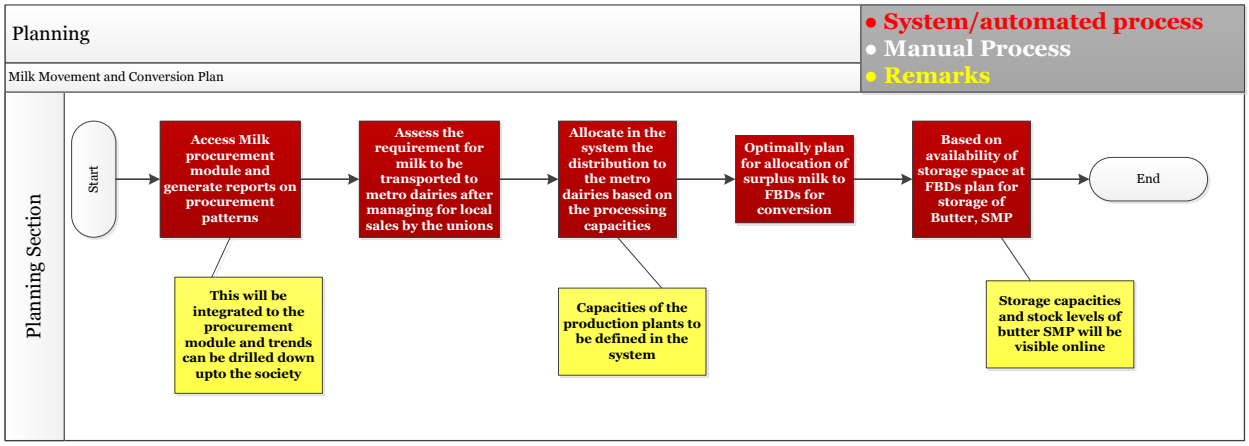
S. No.	Functional Requirement
	recoveries in case of transfer. Pay drawn details for earlier periods to be extracted in the form of reports
9.5.8.	Ability to generate service verification certificate periodically indicating the drawal of pay for duty and leave periods
9.5.9.	Ability to compute various types of pay entitlements (pay arrears, bonus, ex gratia, PLI etc.)
9.5.10.	Ability to compute pay for various types of employees
9.5.11.	Ability to compute earnings amounts or rates for partial pay periods when entitlement dates do not coincide with pay period beginning and ending dates
9.5.12.	Ability to calculate overtime as appropriate.
9.5.13.	Ability to process and compute pay and deductions for multiple positions under different appointment authorities, and different pay, leave, and benefit entitlements.
9.5.14.	Ability to calculate and apply following deductions for each employee: 1. Statutory deduction 2. Fixed deduction 3. Voluntary deduction 4.Variable deduction
9.5.15.	Ability to assign cost centre codes in the employee master
9.5.16.	Ability to compare leave, benefits, and payments, for adjusted time and attendance data with prior period data and automatically compute differences.
9.5.17.	Ability to adjust taxable gross pay by deducting untaxed items
9.5.18.	Ability to allow employees to update personal payroll information related to Income Tax, at the employee's discretion
9.5.19.	Ability to record gross pay, deductions, and net pay, generating information to update other functions and other systems, as appropriate
9.5.20.	Ability to generate pay history showing gross pay by type, deductions by type, and net pay for each pay period
9.5.21.	Ability to interface thrift society demand for deduction towards loan, interest, fixed instalment of loan and thrift amount.
9.6.	**Employee Self Service**
9.6.1.	Provision for employees to view pre-defined data themselves e.g. Bank details, marital status, nomination etc. and leave balance, leave status, salary details, liabilities, declare IT returns, property returns, property lease details, medical & Entertainment etc.
9.6.2.	Ability of providing functionality to the employees of a bill payment system which would also include reimbursements. This would have features for submission, tracking, approval and credit/debit the account, for receiving of physical proof/bills; there should be provision.
9.6.3.	Ability to remind the employee through self service/e-mail/SMS regarding modification or requirement of additional data
9.6.4.	Ability to provide links to the important items hosted in various in-house websites/intranet e.g. important circulars/ instructions/ policy documents etc.
9.6.5.	Ability to provide projection features for viewing projections on Income Tax liability, terminal benefits etc.
9.6.6.	Ability to apply for leave (with appropriate documents to be submitted online), bill payments, loans etc. for employees and approval to be managed through proper workflow defined in the system
9.6.7.	Ability to apply for cancellation of any kind of leave online and submit joining report after submitting scanned copy of the fitness certificate in case of medical leave
9.6.8.	Ability to provide for standard forms to be submitted online for reimbursement towards bills, expenses incurred etc.

S. No.	Functional Requirement
9.6.9.	Ability of compiling on-line appraisal/ performance report, review and approve
9.6.10.	Ability to send the employee confirmations after changes are made online
9.6.11.	Ability to create new self-service transactions as and when required.
9.6.12.	Ability to allow the manager to provide access to staff performance review information
9.6.13.	Ability to generate employee performance history.
9.6.14.	Ability to generate appraisal forms, performance plan templates and employee performance plans.
9.6.15.	Ability to provide access to staff training information.
9.6.16.	Ability to enable managers to review staff training history.
9.6.17.	Ability to enable managers to approve training enrolments.
9.6.18.	Ability to accommodate multiple levels of review and approval.
9.6.19.	Ability to provide immediate updates to the core HR/payroll database when data changes complete the workflow cycle.
9.6.20.	Ability to provide an audit trail.
9.6.21.	Ability to give managers the ability to create and save their own custom reports
9.6.22.	Ability to allow managers to view their direct reports as well as drill down to lower levels under their area of responsibility
9.7.	**Manage IR**
9.7.1.	Ability to have a provision to record the incident histories, roles played by different persons, the behavioral history of all employees including access to the Disciplinary Action database to know the history of any employee.
9.7.2.	Capture the information related to strikes and other union related statistics.
9.7.3.	Provision to issue notices to staff, unions about strikes, IR meetings etc.
9.7.4.	Support to maintain the details of various agreements made with the unions
9.7.5.	Ability to send intimation to concerned departments/Time Office regarding sanction of 'on duty' to the employees (union members) in advance.
9.7.6.	Ability to calculate amount due to increase in wage and other allowances as per wage settlement arrived once in four years.
9.8.	**Administration**
9.8.1.	System should support departmental indents / requisition for General Administration activities.
9.8.2.	Ability to capture the particulars of all the vehicles owned by the company.
9.8.3.	Ability to generate alert for the annual payment of Road Tax and Insurance due in advance.
9.8.4.	Ability to facilitate capturing details of total tickets arranged in a month / year with the particulars of name, employee number, designation, mode of travel, date of journey and fare.
9.8.5.	Ability to maintain the entry of outgoing letters/through courier / postal and inward letters disbursement to departments.
9.8.6.	Ability to record the employee's personal telephone calls and recover the cost from the monthly salary.
9.8.7.	Ability to capture the details of employee's company car travel for personal purpose and recover the cost from the monthly salary.

9.10. Planning

9.10.1. Milk movement & conversion plan

9.10.1.1. *Process Map*


Planning
Milk Movement and Conversion Plan
System/automated process
Manual Process
Remarks
Planning Section
Start
Access Milk procurement module and generate reports on procurement patterns
This will be integrated to the procurement module and trends can be drilled down upto the society
Assess the requirement for milk to be transported to metro dairies after managing for local sales by the unions
Allocate in the system the distribution to the metro dairies based on the processing capacities
Capacities of the production plants to be defined in the system
Optimally plan for allocation of surplus milk to FBDs for conversion
Based on availability of storage space at FBDs plan for storage of Butter, SMP
Storage capacities and stock levels of butter SMP will be visible online
End

9.10.1.2. *Process Description*

Sl. No.	Activity	Process Owner
1	Access Milk procurement module and generate reports on procurement patterns. This is to be integrated to the procurement module and intelligent reports like procurement trends can be drilled down upto the society	Planning Section in charge at Federation
2	Assess the requirement for milk to be transported to metro dairies after managing for local sales by the unions. Allocate in the system the distribution to the metro dairies based on the processing capacities. Capacities of the production plants to be defined in the system.	Planning Section in charge at Federation
3	Optimally plan for allocation/ movement of surplus milk to FBDs for conversion. Based on availability of storage space at FBDs plan for storage of Butter, SMP. Storage capacities and stock levels of butter SMP will be visible online. In case of surplus, system to have provision to plan for stock transfer for storage at external storage facilities.	Planning Section in charge at Federation

Functional Requirement Specifications

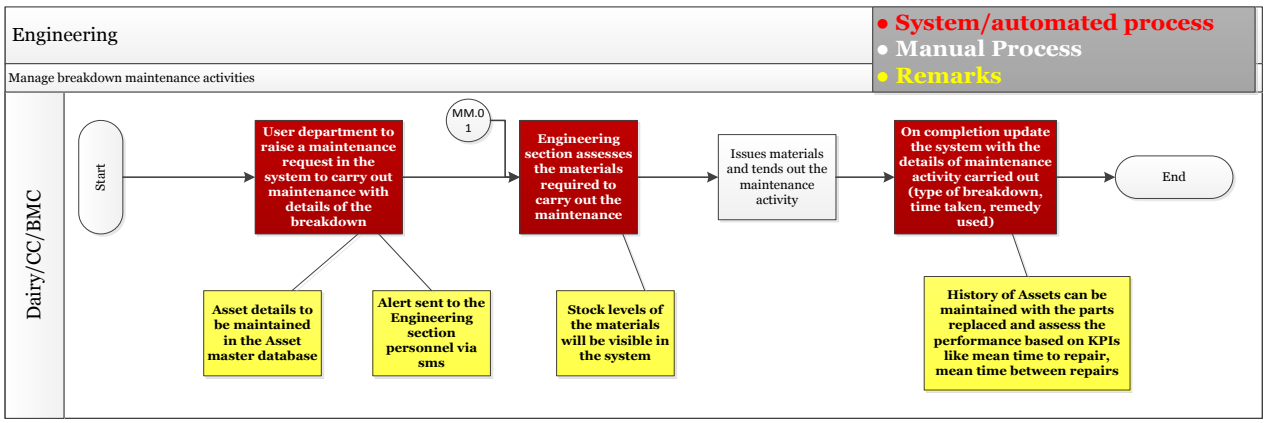
The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Planning section performs the following functionalities that are to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS: • Milk procurement planning (targets for procurement) • Milk and products production planning • Product allocation to Milk Unions • Product allocation to Feeder Dairy plants • Monthly Milk product mix planning • Product dispatch planning for Depots • Vehicle requirement and transportation planning	
10.1.	**Planning**
10.1.1.	Ability to support automatic Dispatch planning i.e. support for transport scheduling based on the pending order list. Also should be taken into account that a single truck can be used to carry material for multiple customers and against multiple orders.
10.1.2.	Ability to decide how much quantity of material can be loaded in a truck and which type of truck can be used to load which type of finished goods
10.1.3.	Ability to support expectancy planning i.e. dispatch planning for orders expected to be fulfilled later in the day based on anticipated production
10.1.4.	Ability to support destination wise / party wise dispatch planning.
10.1.5.	Ability to support schedule wise dispatch planning.
10.1.6.	Ability to support material wise dispatch planning
10.1.7.	Ability to access the milk procurement module and assess the requirement for milk to be transported to metro dairies
10.1.8.	Ability to plan for allocation/ movement of surplus milk to FBDs for conversion
10.1.9.	Ability to access online the availability of storage space at FBDs to plan for storage of Butter, SMP
10.1.10.	Ability to raise an alert in case of surplus production and lack of storage space to plan for stock transfer for storage to external storage facilities
10.1.11.	System should be able to allocate the distribution to the metro dairies based on the processing capacities. Capacities of the production plants to be maintained in the system.
10.1.12.	Ability to generate various reports on milk procurement trends

9.11. Engineering

9.11.1. Manage breakdown maintenance

9.11.1.1. Process Map

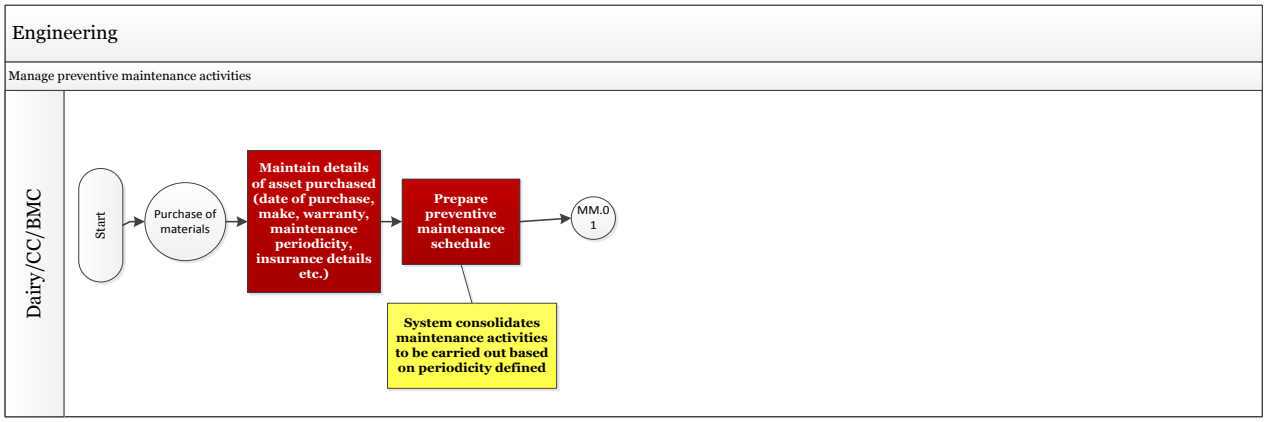

Engineering
Manage breakdown maintenance activities
• System/automated process
• Manual Process
• Remarks
Dairy/CC/BMC
Start
User department to raise a maintenance request in the system to carry out maintenance with details of the breakdown
MM.01
Engineering section assesses the materials required to carry out the maintenance
Issues materials and tends out the maintenance activity
On completion update the system with the details of maintenance activity carried out (type of breakdown, time taken, remedy used)
End
Asset details to be maintained in the Asset master database
Alert sent to the Engineering section personnel via sms
Stock levels of the materials will be visible in the system
History of Assets can be maintained with the parts replaced and assess the performance based on KPIs like mean time to repair, mean time between repairs

9.11.1.2. Process Description

Sl. No.	Activity	Process Owner
1	User department to raise a maintenance request in the system to carry out maintenance with details of the breakdown. Asset details to be maintained in the Asset master database. Alert sent to the Engineering section personnel via SMS.	User Department in charge at CC/ BMC/ Dairy
2	Engineering section assesses the materials required to carry out the maintenance. Stock levels of the materials to be visible in the system to authorized personnel. Issues materials and tends out the maintenance activity. On completion update the system with the details of maintenance activity carried out (type of breakdown, time taken, remedy used, materials consumed etc.). History of Assets can be maintained with the parts replaced and assess the performance based on KPIs like mean time to repair, mean time between repairs.	Engineering Section in charge

9.11.2. Manage preventive maintenance

9.11.2.1. Process Map

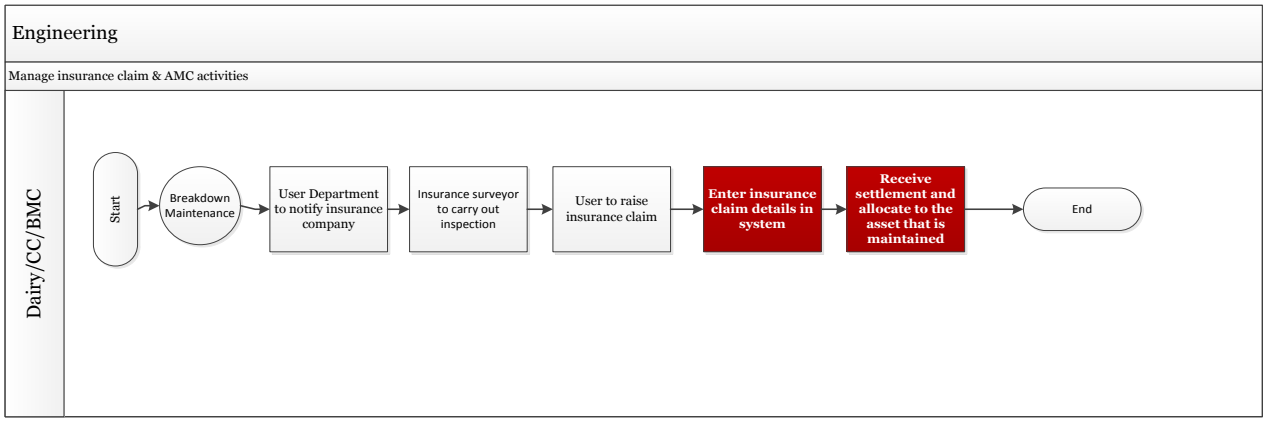

Engineering
Manage preventive maintenance activities
Dairy/CC/BMC
Start
Purchase of materials
Maintain details of asset purchased (date of purchase, make, warranty, maintenance periodicity, insurance details etc.)
Prepare preventive maintenance schedule
MM.01
System consolidates maintenance activities to be carried out based on periodicity defined

9.11.2.2. Process Description

Sl. No.	Activity	Process Owner
1	After purchase, maintain details of asset purchased (date of purchase, make, warranty, maintenance periodicity, insurance details etc.)	Engineering Section in charge
2	System consolidates maintenance activities to be carried out based on periodicity defined. Based on the availability of resources (man and material), prepare preventive maintenance schedule.	Engineering Section in charge
3	Stock levels of the materials to be visible in the system to authorized personnel. Issues materials and tends out the maintenance activity. On completion update the system with the details of maintenance activity carried out (time taken, remedy used, materials consumed etc.). History of Assets can be maintained with the parts replaced and assess the performance based on KPIs like mean time to repair, mean time between repairs.	Engineering Section in charge

9.11.3. Manage insurance claims and AMC activities

9.11.3.1. Process Map


Engineering
Manage insurance claim & AMC activities
Dairy/CC/BMC
Start
Breakdown Maintenance
User Department to notify insurance company
Insurance surveyor to carry out inspection
User to raise insurance claim
Enter insurance claim details in system
Receive settlement and allocate to the asset that is maintained
End

9.11.3.2. Process Description

Sl. No.	Activity	Process Owner
1	On carrying out the breakdown maintenance activity, user department to notify the insurance company in case of machines that are covered under insurance. Details of the insurance validity to be maintained in the system. The system to prompt alerts to the personnel defined in the system in case of nearing the expiry of validity date of insurance.	User section in charge
2	After inspection by insurance surveyor, user to raise insurance claim. Enter insurance claim details in the system	User section in charge
3	Receive settlement and allocate to the asset that is maintained	Finance section in charge at Union/ Federation

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Projects & Engineering section performs the following functionalities that are to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS: • Procurement of project related capital equipment for new dairies. • Monitoring of Financial and Physical progress of in-house and turn key • Projects • Procurements of Investment items for Additions, Maintenance and Repair • projects for existing dairies	
11.1.	**Equipment Management**
11.1.1.	Ability to define a unique code for every equipment in the plant so as to have a complete list of all equipment to be maintained
11.1.2.	Ability to number each part of the equipment
11.1.3.	Provision in the system to provide the functionality to correlate the equipment part numbers and linked them with the equipment code in order to facilitate easy identification of spares and maintenance requirements
11.1.4.	Ability to define and maintain equipment information including attributes etc. in the system
11.1.5.	Ability to define and track the equipment warranty in the system in order to prevent the in-house maintenance of the equipment during the warranty period given by the supplier.
11.1.6.	Ability to classify the equipment as high/ low value item in the system in order to perform ABC analysis.
11.1.7.	Ability to define various measurement parameters for equipment in the system so as to facilitate condition monitoring.
11.1.8.	Ability to define maintenance groups for every equipment so as to assign the maintenance responsibilities for equipment or group of equipment
11.1.9.	Provision to provide the functionality to define the cost centre for the equipment in order to collect the maintenance cost incurred (by preventive and breakdown maintenance)
11.1.10.	Provision to provide the functionality to attach drawings and standard operating procedures to the equipment for easy reference
11.1.11.	Provision of failure code hierarchies in the system in order to record the equipment problem
11.1.12.	Ability to define the specific search criteria in the system for easy retrieval of equipment information
11.2.	**Spares and Consumable Lists**
11.2.1.	Ability to prepare the spare and consumables list for equipment and make it accessible centrally for viewing by concerned
11.2.2.	Ability to define the common spares and their interchangeability.
11.2.3.	Ability to edit spares and consumables list by the authorized users so as to incorporate the new spares, if any, from the operational experience of Maintenance
11.3.	**Work Order Management**
11.3.1.	Ability to create work orders in the system in order to carry out the various maintenance activities.
11.3.2.	Provision to define and maintain work order flow including planning, preparation,

S. No.	Functional Requirement
	scheduling, execution, and conclusion of work orders and tracking the entire history of work request
11.3.3.	Ability to assist a user with detailed information on the work order about what should be done, how it should be done, by whom, and when
11.3.4.	Functionality to define the parent-child relationships between equipment to be used for identifying opportunity maintenance jobs
11.3.5.	Ability to create work orders without going through the work order planning process by an end user override such as for dealing with emergency situations
11.3.6.	Ability to calculate estimated cost of a work order based on all resources (Manpower, Spares, Consumables etc.) required for the work order
11.3.7.	Ability to facilitate the integration between the inventory and work orders in the system in order to build up the cost information on work orders based on purchased and issued materials/ services consumed.
11.3.8.	Ability to support shift-wise or job-wise maintenance manpower planning in the system
11.3.9.	Functionality for reallocation of the manpower resources in the system as per the user requirement
11.3.10.	Functionality to monitor pending maintenance work orders in the system
11.3.11.	Ability to track the status of work orders through various stages in its life cycle from creation to closure
11.3.12.	Provision in the system for entire process of maintenance i.e. from order to closure to be work flow enabled
11.3.13.	Ability to attach resource requirement documents, contractor material and/ or labour requirements, work permits, material safety data sheets, instruction sheets to work orders for reference
11.3.14.	Ability to report time and duration of various maintenance resources utilized including maintenance engineers, supervisors and administrative personnel and external service contractors be reported
11.3.15.	Functionality in the system to built up personnel cost in the work orders automatically
11.3.16.	Provision to enter test and measurement results in the system for future reference
11.3.17.	Functionality in the system to classify equipment based upon the maintenance costs incurred during the year
11.3.18.	Ability to keep audit trails for all work orders created in order to track the changes.
11.3.19.	Provision in the system for maintenance history information for equipment to be created and made available centrally for maintenance job planning and analysis
11.3.20.	Ability to track and reschedule maintenance with amendments
11.4.	**Breakdown Maintenance**
11.4.1.	Initiate fault reports in a user defined format giving details of the fault such as the equipment name, priority of fault, description of fault, impact of the fault on operation, date and time on which fault occurred, person reporting the fault, person responsible for taking the action
11.4.2.	Ability to generate the alerts/fault reports by the system based on pre-defined threshold values (Rotations, temperatures, vibration, Kilometre, Time etc.)
11.4.3.	Ability to send the alerts to concerned users, when a breakdown/ malfunctions are reported.
11.4.4.	Functionality to create work orders with reference to maintenance request in case the breakdown/ malfunction are reported
11.4.5.	Create, store and retrieve user defined codes while entering in the work order such as breakdown, impact, job cancellation reason, job incomplete reason, reschedule reason etc.

S. No.	Functional Requirement
11.4.6.	Ability to capture work order information such as: What caused the problem? What action was performed on the work order i.e. how the problem was solved? When the work actually started and ended
11.4.7.	Ability to define action codes* in the work order (* Action code refers to action taken to complete the work order.)
11.4.8.	Provision to define shut down request in the system before carrying out major maintenance work
11.4.9.	Define and maintain shut down plan in the system before carrying out the annual maintenance
11.4.10.	Provision for the equipment called for shutdown for maintenance to be excluded for planning/considering for operations
11.5.	**Maintenance Check List**
11.5.1.	Ability to manage and track various documents and statutory requirements for equipment in the system (Insurance, Vehicle Permits, fitness certification, Boiler Inspection, ETP, Pollution certification etc.)
11.5.2.	Ability to define the various maintenance tasks for a equipment that need to be carried out over a period of time in order to keep it in good working condition
11.5.3.	Provision for manpower required for carrying out the various maintenance tasks defined in the list to be assigned to every equipment
11.5.4.	Functionality to define spares and consumables requirement in the system for carrying out maintenance
11.5.5.	Provision for user to edit the spares required for maintenance based on the investigation of problem and for indent to be created based on the final list defined by the users
11.5.6.	Ability to define contract resource requirement/ any specialized service requirement in the system in order to facilitate the hiring of such services well in advance
11.5.7.	Ability to create and maintain the master list of safety instructions / isolations/precautions requirements centrally
11.6.	**Routine/Preventive Maintenance**
11.6.1.	Ability to identify, amalgamate equipments, parts, shops etc. and plan maintenance activity in a sequence, considering dependency based on user defined conditions
11.6.2.	Provision to create checklist describing the sequence of individual maintenance activities which is performed repeatedly in order to keep the equipment in the running condition
11.6.3.	Ability to schedule the checklist for a particular date so as to create the trigger for due maintenance tasks
11.6.4.	Ability to define all necessary information for routine maintenance actions in the system including spares, roles, work instructions, documents
11.6.5.	System to provide the facility for distributing the total cost of route job to individual equipment on predefined criteria
11.6.6.	Ability to carry out preventive maintenance analysis in the system showing the details such as slippage, preventive maintenance to breakdown ratio
11.6.7.	Ability to define the workflow of the various activities under the process as per the user requirements
11.6.8.	Functionality to reassign a workflow activity to the other user in case original approver of the document is absent
11.6.9.	Provision for the preventive maintenance schedule to be amended for equipment if the maintenance was forced/as per user requirement to carry out other than the original scheduled date
11.6.10.	Provision for preventive maintenance jobs for equipment to be changed by

S. No.	Functional Requirement
	assigning a new due date for the preventive maintenance job and ensuring all subsequent cycles follow the new date
11.6.11.	Ability to exclude the non-functional equipment from the preventive maintenance schedules.
11.6.12.	Ability to track the information related to back log orders, equipment replacement recommendations
11.6.13.	Ability to track performance of individual spare/major item of a equipment
11.6.14.	Ability to generate the reports related to TPM (total productivity management) such as MTTR, MTBR, number of breakdowns and failures, overall equipment efficiency etc.
11.7.	**Equipment sent out for repairs**
11.7.1.	Ability to generate the request for sending the equipment out for repair
11.7.2.	Ability to generate the order for subcontracting work
11.7.3.	Provision for status of the equipment to be changed when sent out to OEM/ external agency (i.e. To Be Repaired)
11.7.4.	Ability to track the various movements of material / equipment in the system (i.e. Original Location – Store – OEM/ Third Party – Store – Original Location)
11.7.5.	Functionality to prepare returnable delivery challan for the equipment that needs to be sent out for repairs
11.7.6.	Ability to monitor and confirm the performance of external contractor as being effective, efficient and acceptable
11.7.7.	Functionality to generate the inspection calls in the system for carrying out the inspection at vendors' site
11.7.8.	Ability to generate inspection report in the system so as to decide on material acceptance/rejection
11.7.9.	Ability to verify quantity, price, tax data at the time of creating the goods receipt document
11.7.10.	Provision in the system to provide the link between the receipt of the goods, purchase order created for subcontracting work and payment to third party in the system after certification
11.7.11.	Ability to depict the consumption trend in the system for deciding on spares and tools requirement
11.7.12.	Provision for status of stock and procurement status of spares and consumables and usage of services to be accessed for preparation of a consolidated requirement of spares and consumables for maintenance and service requirements
11.7.13.	Ability to check availability and usage of spares and tools in the system
11.7.14.	Functionality to define and manage inventory levels (minimum level, reorder level) for spares and tools in the system
11.7.15.	Ability to issue warning for potential spares and tools shortages by the system. On slow moving items/non moving items
11.7.16.	Functionality to automatically update the spares and tools stock figures upon the material receipts, material issues, material consumed (at the time of maintenance work order settlement) and disposals, if any
11.7.17.	Ability to define the tags/ identification mark in the system for defective spares and tools
11.7.18.	Ability to generate and track purchase requisition in the system for spares and tools
11.7.19.	Ability to define shelf life period for the spares and consumables
11.8.	**Equipment sent out for repairs**
11.8.1.	Ability to generate the request for sending the equipment out for repair
11.8.2.	Ability to generate the order for subcontracting work

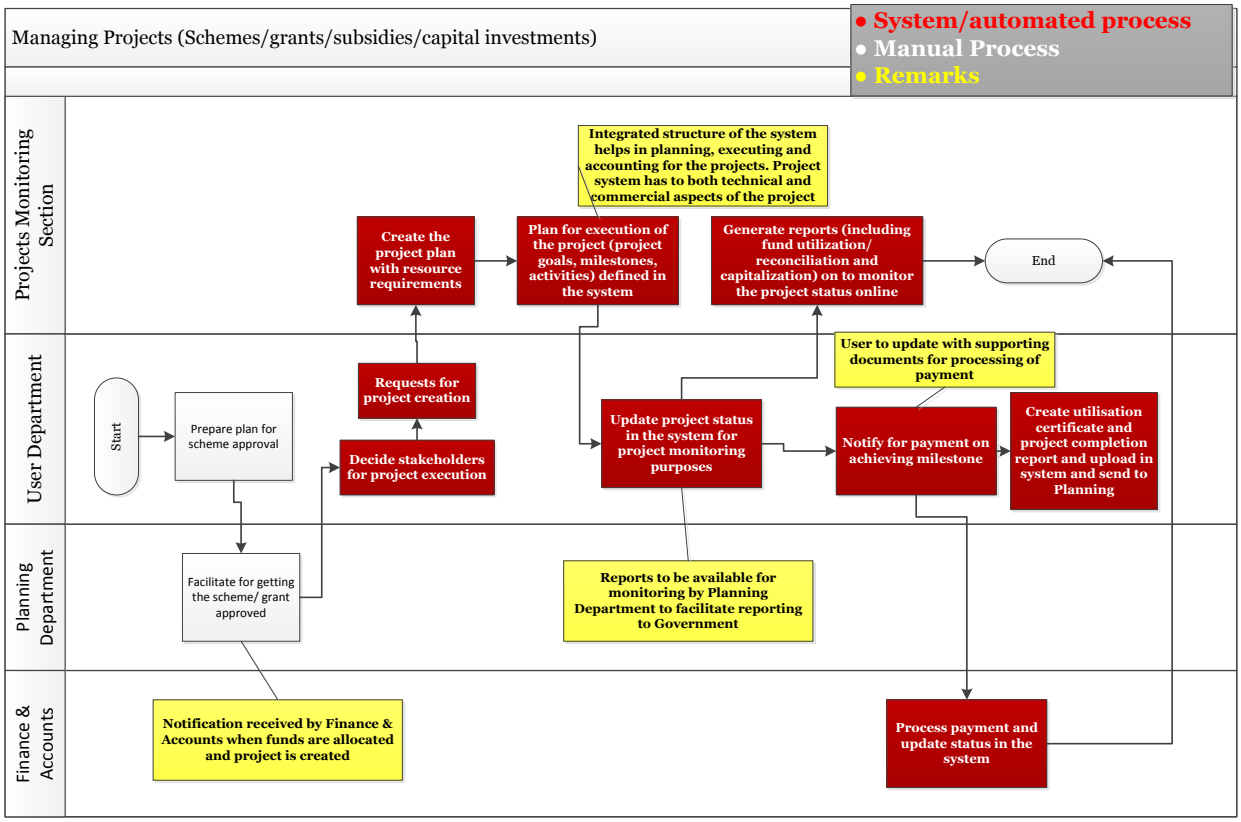
S. No.	Functional Requirement
11.8.3.	Provision for status of the equipment to be changed when sent out to OEM/ external agency (i.e. To Be Repaired)
11.8.4.	Ability to track the various movements of material / equipment in the system (i.e. Original Location – Store – OEM/ Third Party – Store – Original Location)
11.8.5.	Functionality to prepare returnable delivery challan for the equipment that needs to be sent out for repairs
11.8.6.	Ability to monitor and confirm the performance of external contractor as being effective, efficient and acceptable
11.8.7.	Functionality to generate the inspection calls in the system for carrying out the inspection at vendors' site
11.8.8.	Ability to generate inspection report in the system so as to decide on material acceptance/rejection
11.8.9.	Ability to verify quantity, price, tax data at the time of creating the goods receipt document
11.8.10.	Provision in the system to provide the link between the receipt of the goods, purchase order created for subcontracting work and payment to third party in the system after certification
11.8.11.	Ability to depict the consumption trend in the system for deciding on spares and tools requirement
11.8.12.	Provision for status of stock and procurement status of spares and consumables and usage of services to be accessed for preparation of a consolidated requirement of spares and consumables for maintenance and service requirements
11.8.13.	Ability to check availability and usage of spares and tools in the system
11.8.14.	Functionality to define and manage inventory levels (minimum level, reorder level) for spares and tools in the system
11.8.15.	Ability to issue warning for potential spares and tools shortages by the system. On slow moving items/non moving items
11.8.16.	Functionality to automatically update the spares and tools stock figures upon the material receipts, material issues, material consumed (at the time of maintenance work order settlement) and disposals, if any
11.8.17.	Ability to define the tags/ identification mark in the system for defective spares and tools
11.8.18.	Ability to generate and track purchase requisition in the system for spares and tools
11.8.19.	Ability to define shelf life period for the spares and consumables
11.9.	**Complaint Management System**
11.9.1.	Ability to interface complaint management system with ERP system in order to create repository of information concerning booth maintenance
11.9.2.	Provision in the system to provide the analytical tools for capturing most recurring faults at booths
11.9.3.	Functionality to generate the reports such as: complaint redressal reports; list of assets available; list of unattended complaints; repetitive faults; complaints attended after specified time; complaint redressal time Vs specified time; report for penalty deduction after specified time
11.9.4.	Provision for store ledger and department ledger (sub-store) to be made available in the system
11.9.5.	Functionality to create comprehensive asset master in the system with details as per the user requirement
11.9.6.	Ability to capture the vital parameter like item code, asset numbers, location type, location name, distributor code, point / shop number, contractor code, AMC due date, status of equipment, purchase order number, date, goods receipt number and date, store requisition number and date

S. No.	Functional Requirement
11.9.7.	Ability to capture asset movement from store receipt to point of sale & back.
11.9.8.	Ability to map assets with the booths / shops and also with the individual contractor to facilitate the complaint creation process
11.9.9.	Ability to change the contractor - asset combination as per the requirement
11.9.10.	Provision for reasons for the change of contractor to be updated and reported in the system
11.9.11.	Ability to provide the details of status (active or inactive) of contractor
11.9.12.	Ability to show the details of all created and withdrawn AMCs to the concerned
11.9.13.	Provision to capture details regarding working / defective position of assets in order to facilitate repair planning
11.9.14.	Provision in system to capture & produce item wise and period wise milk shop/retail placement & removal of assets
11.9.15.	Ability to capture recovery of non return of items and recovery of such items from security deposit
11.9.16.	Provision for booth-wise maintenance cost to be made available in the system for reporting purposes
11.9.17.	Ability to update the maintenance cost for booths / milk shop automatically
11.9.18.	Ability to maintain inventory of assets, spares and consumables at milk / retail shop
11.9.19.	Ability to capture and analyse expenditure analysis for utilities booth-wise
11.9.20.	Functionality to capture the process for installation of new booth / retail outlet
11.9.21.	Provision to capture the data of calibration of storage tanks at various outlets to produce calibration charts
11.9.22.	Provision for information concerning the pending calibration of booths / outlets be made available online to the concerned
11.9.23.	Ability to provide the variations between the present calibration chart as compared to the previous calibration charts
11.9.24.	Functionality to capture asset despatch advise from sales
11.9.25.	Functionality to capture the physical movement of assets and update all relevant records in asset register online
11.9.26.	Functionality to generate pending report of return / dispatch advises for asset placement /return

9.12. Projects

9.12.1. Manage projects (schemes/ grants/ subsidies/ capital investments)

9.12.1.1. Process Map


Managing Projects (Schemes/grants/subsidies/capital investments)
• System/automated process
• Manual Process
• Remarks
Projects Monitoring Section
User Department
Planning Department
Finance & Accounts
Integrated structure of the system helps in planning, executing and accounting for the projects. Project system has to both technical and commercial aspects of the project
Create the project plan with resource requirements
Plan for execution of the project (project goals, milestones, activities) defined in the system
Generate reports (including fund utilization/ reconciliation and capitalization) on to monitor the project status online
End
User to update with supporting documents for processing of payment
Start
Prepare plan for scheme approval
Requests for project creation
Decide stakeholders for project execution
Update project status in the system for project monitoring purposes
Notify for payment on achieving milestone
Create utilisation certificate and project completion report and upload in system and send to Planning
Facilitate for getting the scheme/ grant approved
Reports to be available for monitoring by Planning Department to facilitate reporting to Government
Notification received by Finance & Accounts when funds are allocated and project is created
Process payment and update status in the system

9.12.1.2. Process Description

Sl. No.	Activity	Process Owner
1	Prepare plan for scheme approval	User section in charge
2	Facilitate for getting the scheme/ grant approved. Notification received by Finance & Accounts when funds are allocated and project is created	Planning section in charge at Federation
3	Decide stakeholders for project execution. Requests for project creation in the system.	User section in charge
4	Create the project plan with resource requirements. Plan for execution of the project (project goals, milestones, activities) defined in the system. Integrated structure of the system to help in planning, executing and accounting for the projects. Project system has to cover both technical and commercial aspects of the project	Project Monitoring section in charge
5	Update project status in the system for project monitoring purposes. Reports to be available for monitoring by Planning	User section in charge

	Department to facilitate reporting to Government. Notify for payment on achieving milestone. User to update with supporting documents for processing of payment.	
6	Process payment and update status in the system	Finance section in charge
7	Create utilisation certificate and project completion report and upload in system and send to Planning.	User section in charge
8	Generate reports (including fund utilization/ reconciliation and capitalization) on to monitor the project status online	Project Monitoring section in charge

Functional Requirement Specifications

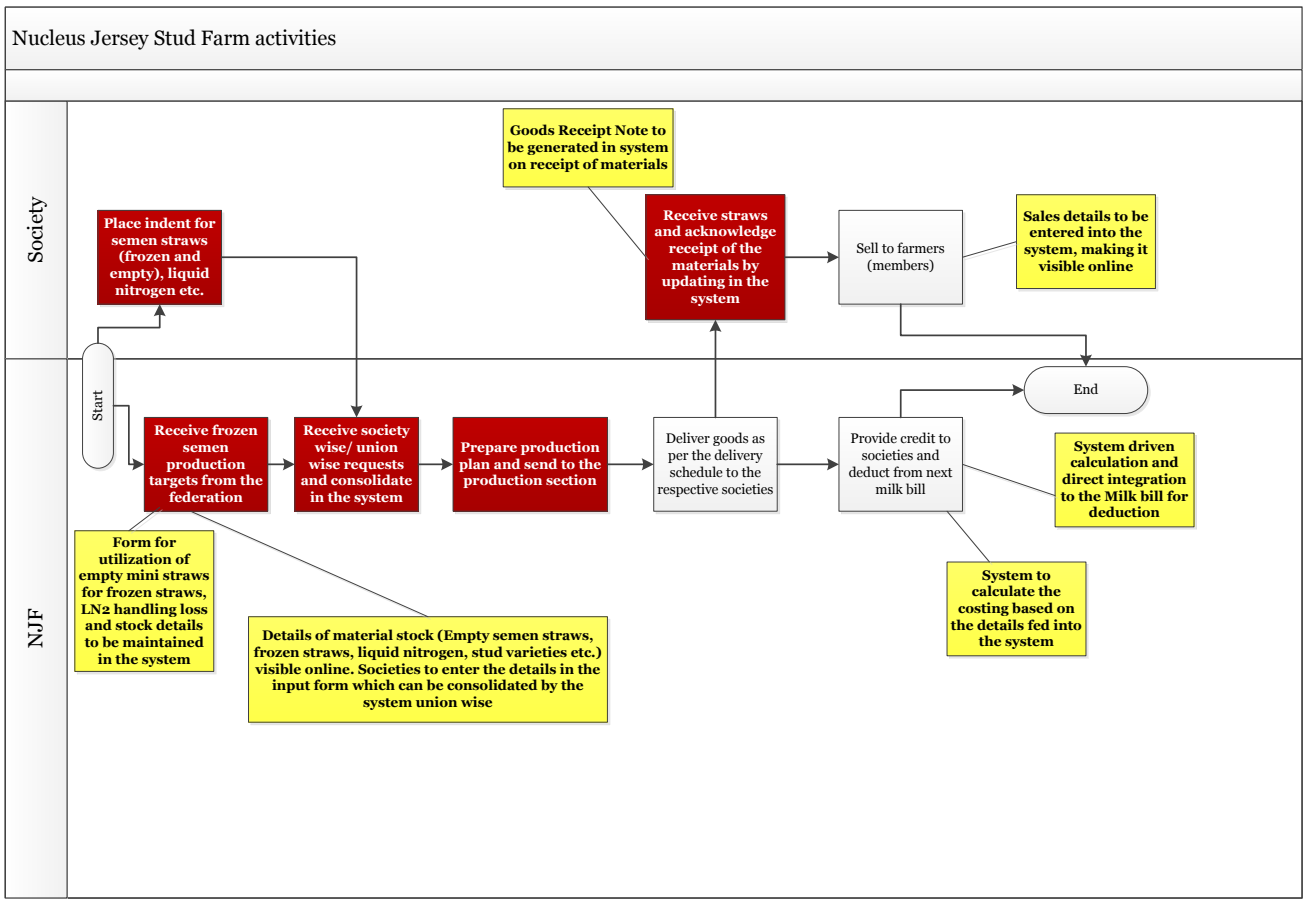
The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
Projects & Engineering section performs the following functionalities that are to be covered as part of the IDMS solution which is elaborated in the subsequent sections of the FRS: • Procurement of project related capital equipment for new dairies. • Monitoring of Financial and Physical progress of in-house and turn key • Projects • Procurements of Investment items for Additions, Maintenance and Repair • Projects for existing dairies	
12.1.	**Projects**
12.1.1.	Ability to create project plans in the system for modification/construction projects
12.1.2.	Provision in the system to provide project management capabilities such as PERT charts, Gantt charts, activity schedules, resource planning, project controlling and monitoring, progress analysis for successful completion of modification projects undertaken
12.1.3.	Ability to make available all information such as material and manpower for the preparation of modification project budgets
12.1.4.	Ability to allocate and monitor the budget assigned to the project created
12.1.5.	Functionality to facilitate the advance planning for materials/ services so as to reduce the stock shortage during the execution of the project
12.1.6.	Provision for all project costs to be identified, justified, recorded, authorized and accounted for accurately in the system
12.1.7.	Ability to carry out cost planning to arrive at cost estimate.
12.1.8.	Ability to create the detailed history sheets in the system for equipment
12.1.9.	Ability to monitor project status and update against the original project plan
12.1.10.	Ability for communicating the project status with the Department
12.1.11.	Ability to generate completion certificate against the project based on documentary proof attached
12.1.12.	Ability to generate the funds utilization certificate

9.13. Nucleus Jersey and Stud Farm (NJSF)

9.13.1. Manage NJSF activities

9.13.1.1. Process Map


Nucleus Jersey Stud Farm activities
Society
NJF
Goods Receipt Note to be generated in system on receipt of materials
Place indent for semen straws (frozen and empty), liquid nitrogen etc.
Receive straws and acknowledge receipt of the materials by updating in the system
Sell to farmers (members)
Sales details to be entered into the system, making it visible online
Start
End
Receive frozen semen production targets from the federation
Receive society wise/ union wise requests and consolidate in the system
Prepare production plan and send to the production section
Deliver goods as per the delivery schedule to the respective societies
Provide credit to societies and deduct from next milk bill
System driven calculation and direct integration to the Milk bill for deduction
Form for utilization of empty mini straws for frozen straws, LN2 handling loss and stock details to be maintained in the system
Details of material stock (Empty semen straws, frozen straws, liquid nitrogen, stud varieties etc.) visible online. Societies to enter the details in the input form which can be consolidated by the system union wise
System to calculate the costing based on the details fed into the system

9.13.1.2. Process Description

Sl. No.	Activity	Process Owner
1	Place indent for semen straws (frozen and empty), liquid nitrogen etc.	Society staff
1	Receive frozen semen production targets from the federation Form for utilization of empty mini straws for frozen straws, LN2 handling loss and stock details to be maintained in the system Details of material stock (Empty semen straws, frozen straws, liquid nitrogen, stud varieties etc.) visible online. Societies to enter the details in the input form which can be consolidated by the system union wise	NJSF section
2	System to consolidate the society wise/ union wise requests received	P&I Section
3	Prepare production plan and send to the production section	Production Section
4	Deliver goods as per the delivery schedule to the respective societies	Stores

5	Provide credit to societies and deduct from next milk bill System driven calculation and direct integration to the Milk bill for deduction System to calculate the costing based on the details fed into the system	Finance section in charge
6	Receive straws and acknowledge receipt of the materials by updating in the system Goods Receipt Note to be generated in system on receipt of materials	User section in charge
7	Sell to farmers (members) Sales details to be entered into the system, making it visible online	Project Monitoring section in charge

Functional Requirement Specifications

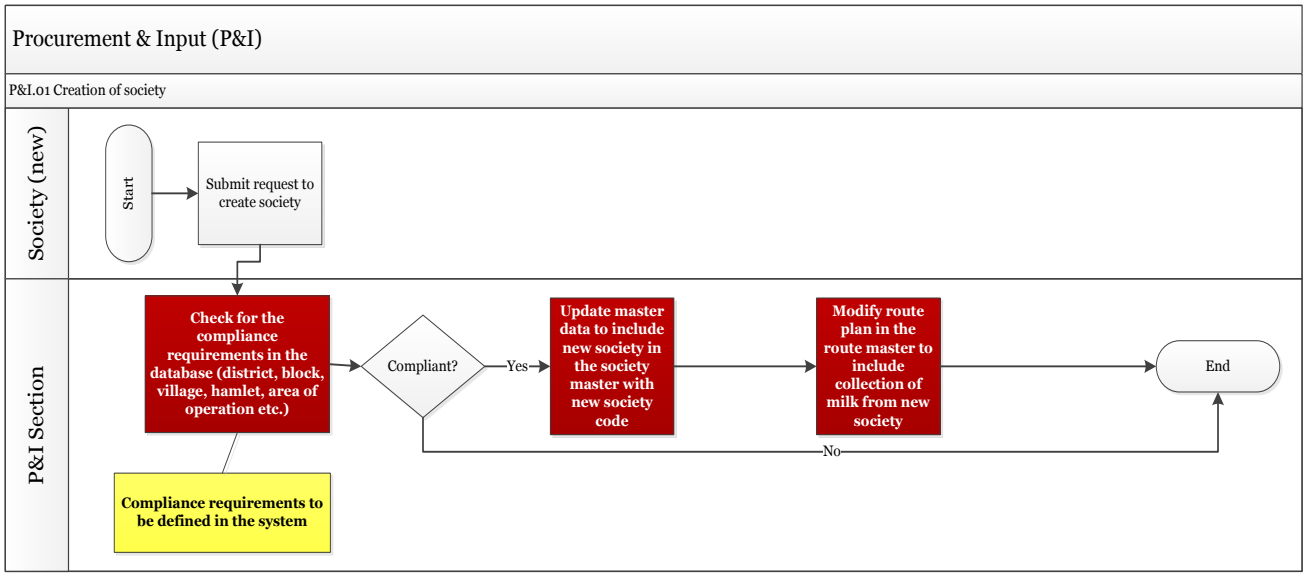
The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
13.1.	**NJSF**
13.1.1.	Ability to maintain details of the cattle (cow, bull and calf) at NJSF
13.1.2.	Ability for societies to place their requirements for AI activities
13.1.3.	Ability of the P&I team to view consolidated list of requests for AI from the societies
13.1.4.	Ability for the unions to maintain utilization of empty mini straws for frozen straws, LN2 handling loss and stock details in the system
13.1.5.	System should have the details of material stock (Empty semen straws, frozen straws, liquid nitrogen, stud varieties etc.) online.
13.1.6.	Ability for the societies to enter the stock details in the input form which can be consolidated by the system union wise
13.1.7.	Ability for the NJSF to prepare a periodic (annual, monthly, weekly etc.) semen straw production plan and drill down to the unions
13.1.8.	Ability to enter the number of straws dispatched to the unions
13.1.9.	Ability for P&I team to enter the details of the cattle farmer-wise society-wise
13.1.10.	Ability to generate reports on the number of AI activities undertaken, number of successful inseminations and other reports related to the AI and AH activities
13.1.11.	Ability of the system to enable society to generate Goods Receipt Note on receipt of the straws
13.1.12.	Ability of the system to provide credit to societies and calculate deductions from next milk bill
13.1.13.	Ability of the system to provide details of the sales made to the unions.

9.14. Procurement & Input

9.14.1. Creation of Society

9.14.1.1. Process Map

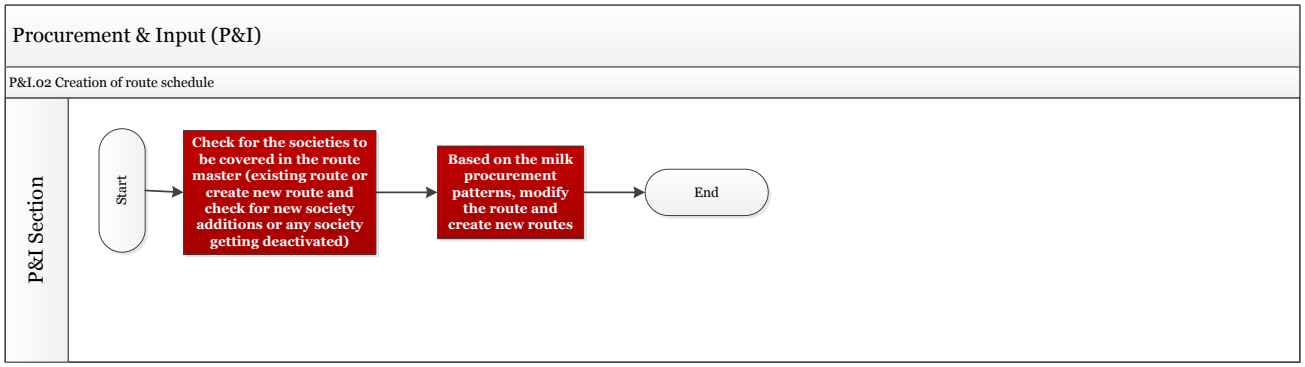

Procurement & Input (P&I)
P&I.01 Creation of society
Society (new)
P&I Section
Start
Submit request to create society
Check for the compliance requirements in the database (district, block, village, hamlet, area of operation etc.)
Compliant?
Yes
No
Update master data to include new society in the society master with new society code
Modify route plan in the route master to include collection of milk from new society
End
Compliance requirements to be defined in the system

9.14.1.2. Process Description

Sl. No.	Activity	Process Owner
1	Submit request to create society	Society staff
1	Check for the compliance requirements in the database (district, block, village, hamlet, area of operation etc.) defined in the system	P&I Team
2	If Yes, Update master data to include new society in the society master with new society code	P&I Team
3	If No, Modify route plan in the route master to include collection of milk from new society	P&I Team

9.14.2. Creation of Route Schedule

9.14.2.1. Process Map


Procurement & Input (P&I)
P&I.02 Creation of route schedule
P&I Section
Start
Check for the societies to be covered in the route master (existing route or create new route and check for new society additions or any society getting deactivated)
Based on the milk procurement patterns, modify the route and create new routes
End

9.14.2.2. Process Description

Sl. No.	Activity	Process Owner
1	Check for the societies to be covered in the route master (existing route or create new route and check for new society additions or any society getting deactivated)	P&I Team
2	Based on the milk procurement patterns, modify the route and create new routes	P&I Team

Functional Requirement Specifications

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

Functionalities of P&I	
14.1.	**Creation of New Society**
14.1.1.	Ability to register a Farmer/Pouring member and associate it to a Society.
14.1.2.	Ability to migrate pourer/member within societies
14.1.3.	Ability to log all migration activity for audit trail
14.1.4.	Ability to raise the request in the system for new society registration and approval by competent authority
14.1.5.	Ability to check for compliance requirements (district, block, village, hamlet, area of operation etc.)
14.1.6.	Ability to update the master data on approval of registering new society
14.2.	**Creation of New route**
14.2.1.	Ability to create/modify the route plan accordingly and assign transporter to the newly registered society for collection of milk
14.2.2.	Ability to monitor active/inactive societies and change the milk collection route accordingly
14.2.3.	Ability to optimise the milk collection routes based on the procurement patterns

Other Modules – Functional Requirement Specifications

9.15. Knowledge Management

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
15.1.	**Content Management**
15.1.1.	Ability in the system to allow definition of various categories for organizing information like process documentation, SOPs, manuals, HR policies etc.
15.1.2.	Ability in the system to allow design of forms for accepting knowledge contributions from employees
15.1.3.	Provision to accept files, URL links and other such attachments as part of uploads by the employees
15.1.4.	Provision to enable designated approvals in the system for specific type of content. Contents requiring such approval can be configured by the system administrator/moderator
15.1.5.	Post due approvals, uploaded content to be made available for viewing and downloading by employees with proper authorization
15.1.6.	Provision in the system to remove outdated or irrelevant content
15.1.7.	Provision to schedule regular screening of posted contents for inappropriate posts/copyright violations/redundancy
15.1.8.	Ability in the system to integrate with the Document Management System for proper storage, retrieval, classification and deletion of uploaded documents
15.1.9.	Ability to allow user or user group to configure or modify their view of the system
15.1.10.	Provision to allow user to retrieve a list of relevant posts/documents stored in the KM database based on specific keyword search
15.2.	**Access Control**
15.2.1.	Knowledge Management system is required to be available from the Intranet to share and retrieve documents/ policies/ case studies/ best practices
15.2.2.	Limited access to Knowledge Management portal is required over Internet. Only specific contents would be available and certain actions be permitted over the internet
15.2.3.	Provision to configure access for first time users and to store login credentials for subsequent authentication
15.2.4.	Ability in the system to configure User Groups and Roles
15.2.5.	Feature to map every User to one or more User Groups
15.2.6.	Feature to assign one or more Roles to each User Groups
15.2.7.	Provision to configure access to content and define actions for every Role
15.2.8.	Provision to remove obsolete user accounts and associated data
15.3.	**Usage Monitoring and Reporting**
15.3.1.	Ability in the system to provide details of number of users logging into the system for a particular period of time
15.3.2.	Ability in the system to track usage details like user activities, most frequented pages etc

9.16. Document Management System

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
16.1.	**DMS**
16.1.1.	Ability to interface/integrate with standard software tools, graphing and charting tools
16.1.2.	Ability to retrieve/ import images
16.1.3.	Ability to extract/retrieve/import content from databases
16.1.4.	Ability to interface with other platforms
16.1.5.	Ability to integrate with legacy system like File Tracking system
16.1.6.	Ability to define policies for documents such as active / retiral / archival / destruction of documents and records.
16.1.7.	Ability to access/collect/retrieve/import content using import utilities or other code modules, either user-invoked or invoked via an automated process, from LAN/WAN locations
16.1.8.	Ability to identify source of content, original as well as updates
16.1.9.	Ability to calculate/create/ cancellation/ modifications new content from existing components
16.1.10.	Ability to handle variable components like text, data, graphics, images, charts and graphs
16.1.11.	Ability to compose complete layouts; layout formatting capabilities
16.1.12.	Ability to handle variable components in templates: vary in content, vary in size; effect on resulting document instances
16.1.13.	Ability to force page breaks
16.1.14.	Ability to embed business rules in template definitions, to vary resulting documents based on presence/value of specific content
16.1.15.	Ability to preview sample document from template definition
16.1.16.	Ability to import/convert existing templates
16.1.17.	Ability to have built-in functions: page numbering, header/footer sections, columns, etc.
16.1.18.	Ability to re-use components in templates/documents
16.1.19.	Ability to populate/combine/calculate/generate templates from content components to create documents manually or automatically through the system
16.1.20.	Ability to verify documents and refine/customize content on document instances without changing at template
16.1.21.	Ability to revise published documents
16.1.22.	Ability to output documents in various presentations formats
16.1.23.	Ability to upload components/documents to intranet sites, internet sites
16.1.24.	Ability to download components/documents from intranet sites, internet sites
16.1.25.	Ability to create and print-ready output
16.1.26.	Ability to generate attribute information such as author, date created, version, date modified/by whom; at component/document/template save
16.1.27.	Ability to search templates/components/documents for retrieval by author, title, date, type and other attributes, keywords/ tags, full text search, wildcard search, advanced search
16.1.28.	Ability to search templates/components/documents for replace & replace-all updates; ability to define search criteria for replace/replace-all
16.1.29.	Ability to construct search criteria with a wizard, not a query language
16.1.30.	Automatic inclusion of archives
16.1.31.	Ability to choose directories/sub-directories to search, including archives

S. No.	Functional Requirement
16.1.32.	Ability to view actual template/component/document in search results
16.1.33.	Ability to print/produce documents from search results
16.1.34.	Ability to store templates/components/documents/versions in folders or other container hierarchy
16.1.35.	Ability to organize templates/components/documents: by type, author, date created, etc.
16.1.36.	Ability to check-out and check-in for template/component/document
16.1.37.	Ability to check-in only by user who checked out the template/component/document
16.1.38.	Ability to lock-out or notification of checked-out status for templates/components/documents being updated
16.1.39.	Ability to store and recall versions of templates/components/documents
16.1.40.	Ability for user to decide to save a revision/update as a new version or replace existing version
16.1.41.	Ability to distinguish between versions
16.1.42.	Ability to compare versions and report differences
16.1.43.	Ability to rollback to a prior version
16.1.44.	Ability to archive templates/components/documents
16.1.45.	Ability to define purge criteria and/or retention periods by the user
16.1.46.	Ability to generate audit trail to track who changed what when, template/component/document history tracking
16.1.47.	Ability to route automatically and notify for review/approval
16.1.48.	Ability to attach documents to workflows
16.1.49.	Ability for reviewers/approvers to add comments/annotate documents/components, highlight text, attach related docs/files
16.1.50.	Ability to route to an outside entity via email
16.1.51.	Ability to automatically notify via email/system notification, to component and document owners when a component is changed
16.1.52.	Ability to create definition/scheduling of tasks/plans/projects; notifications to users of pending/due/overdue tasks
16.1.53.	Ability to track status of task/plan/project
16.1.54.	Ability to email templates/components/documents
16.1.55.	Ability to define distribution lists/mailing lists
16.1.56.	Ability to do ad hoc reporting: graphical user interface, wizard, selections vs. expressions
16.1.57.	Ability to generate user-definable reports & pre-defined reports
16.1.58.	Ability to export report results to multiple formats like Excel, .txt, HTML etc
16.1.59.	Ability to preview reports
16.1.60.	Ability to save report instances to a shared or local drive, printer, etc.
16.1.61.	Ability to create/remove/modify user roles, access levels definable by system admin
16.1.62.	Ability to uniquely identify each user
16.1.63.	Ability to store passwords in encrypted format
16.1.64.	Ability to identify inactive ID's
16.1.65.	Ability to support authentication mechanisms
16.1.66.	Ability to establish access control for confidential/highly restricted information
16.1.67.	Ability to use Digital Signatures for approval

9.17. Management Information System (MIS)

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
17.1.	**DVC**
17.1.1.	Ability to search and display detailed milk procurement data SOCIETY/CC/BMC/Plant wise
17.1.2.	Ability to generate the SOCIETY dispatch report for the inward transporter
17.1.3.	Ability to generate report on BMC/CC wise Dock milk operation details capturing Actual Dock start and end time, Scheduled Dock start and end time, Variation from scheduled time for each shift
17.1.4.	Ability to generate report on rejected milk BMC/CC wise capturing Quantity of milk rejected, Fat%, SNF% for each shift. Ability to calculate Total good milk receipt, percentage of milk rejected, and responsibility fixed up for rejected milk
17.1.5.	Ability to generate tanker rejection report capturing Tanker number, Tanker route name, Date of rejection, Challan number, Details of milk dispatched, Details of milk rejected, Reason for rejection, Action taker for rejection/disposal
17.1.6.	Ability to generate report on daily tanker movement for tanker late than more than one hour than scheduled time at any location. The report to capture Tanker number, Tanker route name, Delayed in dispatch from dairy, Delay at BMC/CC, Returned late at dock
17.1.7.	Ability to generate report on Transport route late coming details District wise for each BMC. Details to be captured: Pouring Shift, Number of route coming within scheduled time, Number of route coming late for less than 30 min, Number of route coming late for more than 30 min, Total number of route, Total number of route (Late), Reason for late arrival
17.1.8.	Ability to send the quality test report to concerned authorities via email/sms . Following needs to be captured: • SOCIETY name •SOCIETY code • Can number • Quantity of milk •Reason of rejection
17.1.9.	Ability to generate report on zone wise procurement of milk (Milk collected, Fat%, SNF%), milk type wise (Cow/Buffalo) per •BMC •CC •CC/BMC Test centre •Dock wise on daily/weekly/monthly/yearly basis
17.1.10.	Ability to generate Daily BMC report capturing the following: • Milk Stock details •BMC Operations details • System check details • Calibration schedule details •Sourage /Curd details • BMC level rejection details • DG set operations detail • Transport route late coming details • SOCIETY status of new and closed •Information on closed SOCIETY • BR Reading records

S. No.	Functional Requirement
17.1.11.	Ability to generate Procurement variation report BMC wise for each day capturing previous day procurement quantity, current day procurement quantity, variation in procurement, variation percentage
17.1.12.	Ability to prepare the SOCIETY-BMC variation report shift wise. Following details need to be captured: • BMC Opening Stock • Stock of Milk received at BMC from the inward transporter (Quantity, Fat and SNF) •Stock of actual milk collected at BMC (Quantity, Fat and SNF) •Variation between SOCIETY and BMC collection •Dispatchable Quantity
17.1.13.	Ability to prepare the SOCIETY-CC variation report shift wise. Following details need to be captured: • CC Opening Stock • Stock of Milk received at CC from the inward transporter (Quantity, Fat and SNF) •Stock of actual milk collected at CC (Quantity, Fat and SNF) •Variation between SOCIETY and CC collection •Dispatchable Quantity
17.1.14.	Ability to prepare the BMC-CC variation report shift wise. Following details need to be captured: • CC Opening Stock • Stock of Milk received at CC from the inward transporter (Quantity, Fat and SNF) •Stock of actual milk collected at CC (Quantity, Fat and SNF) •Variation between BMC and CC collection •Dispatchable Quantity
17.1.15.	Ability to generate quality report. The details captured should include Temp F/C, Taste/Flavour, COB, Alcohol, Acidity, Milk Quantity, Fat%, SNF%, Rosalic Neutraliser, Urea, Salt, Sugar, Mal to Dextrin, Glucose, Enzymes, etc.
17.1.16.	Ability to prepare the BMC/CC-Dairy variation report.
17.1.17.	Ability to generate report on DG set operations detail BMC/CC wise for each district capturing Time(hours) for which DG set operated, DG Power generated (KWs), Diesel consumption, Diesel stock details
17.1.18.	Ability to generate report on System check capturing Date and time of problem start, Date and time of problem resolved for equipments like Compressor, Stabilizer, Can scrubber, DG set, Electronic weigh set, AMCU, EMT, Printers etc
17.1.19.	Ability to generate BMC/CC wise SOCIETY status details (Open/Close)
17.1.20.	Ability to prepare Material Balancing report at BMC/CC level. The milk details (Actual Quantity, Actual Fat, Actual SNF, Actual value) needs to be captured for: **Opening and Receipts** • Purchase from pourer at SOCIETY - Good • Purchase from pourer at SOCIETY - Sour • Purchase from pourer at SOCIETY - Curdled **Total Milk** • Total milk - Good • Total milk - Sour • Total milk - Curdled **Tanker Dispatches** • Tanker dispatch - Good • Tanker dispatch - Sour • Tanker dispatch - Curdled **Disposals** • Destroyed

S. No.	Functional Requirement
	• Sale-Good • Sale-Sour • Sale-Curdled **Tanker Receipt** • Tanker receipt- Good • Tanker receipt - Sour • Tanker receipt- Curdled **Closing Stock** • Closing stock - Good • Closing stock - Sour • Closing stock - Curdled
17.1.21.	Ability to generate report on competitors milk procurement/milk price details
17.1.22.	Ability to generate report on quality related field activities capturing District, name of BMC/CC, Number of schedule visits, Actual number of visits taken, No of surprise visit
17.1.23.	Ability to generate BMC wise report on BR reading for each shift
17.1.24.	Ability to generate Field Staff Movement report for each BMC
17.1.25.	Ability to create CDA report for SOCIETY-CC with the following details: •Quantity of milk collected •Amount of Fat •Amount of SNF •Total value of milk Each of the above details will be captured under: •Composite •Dispatch •Actual •Variance
17.1.26.	Ability to create report for BMC-CC with the following details: •Quantity of milk collected •Amount of Fat •Amount of SNF •Total value of milk Each of the above details will be captured under: •Composite •Dispatch •Actual •Variance
17.1.27.	Ability to create report for CC-Dairy with the following details: •Quantity of milk collected •Amount of Fat •Amount of SNF •Total value of milk Each of the above details will be captured under: •Composite •Dispatch •Actual •Variance
17.1.28.	Ability to create BMC/CC tanker dispatch report. The following details needs to be displayed: •BMC/CC Code • Tanker number •Quantity of milk

S. No.	Functional Requirement
	•Fat % •SNF% •Kg of Fat • Kg of SNF •Dispatch challan number •Dispatch date •Seal number • Dispatch Destination
17.1.29.	Ability to generate tanker movement report for outward tanker capturing •Dairy Departure time •Tanker arrival time at each BMC •Tanker departure time at each BMC •Dairy arrival time Ability to calculate •Delay in departure from dairy •Delay at BMC •Delay in reaching dairy
17.1.30.	Provision to create monthly report with the following details: •District •Number of SOCIETYs •Number of villages •Total Number of pourers •Total number of female pourers •Total number of marginal pourers •Average monthly procurement per day •Average price declared for producers for Buffalo milk at 6.5% Fat and 9.0% SNF •Average price declared for producers for Cow milk at 3.5% Fat and 8.5% SNF
17.2.	**Farmer Management**
17.2.1.	Ability to generate the report of the registered/rejected members per CC /BMC/ SOCIETY wise
17.2.2.	Ability to generate the report of SOCIETY wise Membership status for the respective financial year
17.2.3.	Provision to identify the members who have not met the capital requirement matching the annual milk quantity and generate the SOCIETY/CC/BMC wise report of these members
17.2.4.	Ability to generate separate milk pouring analysis report of the member -Who have completed 365 days of membership at the end of the preceding quarter but failed to meet the criteria for membership continuation -Who have completed 365 days during the previous financial year but failed to meet the criteria for membership continuation.
17.2.5.	Ability to generate the separate list of members who have responded and who have not responded to the termination notice.
17.2.6.	Ability to generate pouring pattern report of existing pourer/members (Enrolled as on 31st March of previous financial year)
17.2.7.	Ability to generate pouring pattern report of new pourer/members (Enrolled between 1st April to 31st March of present financial year)
17.2.8.	Provision to prepare Lean-Flush pouring pattern report for the members/pourers
17.2.9.	Provision to prepare list of members SOCIETY wise eligible for voting in AGM
17.2.10.	Ability to prepare list of top 10 members of District /SOCIETY in terms of patronage
17.2.11.	Ability to prepare list of Member status on a yearly basis (as on 31st march of every year)
17.2.12.	Provision to generate list of members along with their classification

S. No.	Functional Requirement
17.2.13.	Ability to generate Member wise comparison report on quantity of milk supplied
17.2.14.	Ability to generate Member list for all those members who have just completed 365 days of membership at the end of preceding quarter but failed to meet criteria for membership continuation
17.2.15.	Ability to generate Member list for all those members who have just completed 365 days of membership during previous financial year but failed to meet the criteria for continuation
17.2.16.	Ability to generate daily/weekly/monthly/annually complaint/grievance reports based on SOCIETY/CC/BMC/Region
17.2.17.	Ability to generate complaint/grievance resolution cycle time and generate exception report for overdue cases
17.3.	**HR**
17.3.1.	Ability to generate reports regarding employee development requirements/needs.
17.3.2.	Ability to generate reports for each employee's competency profile
17.3.3.	Ability to produce individual and departmental training reports.
17.3.4.	Ability to provide report with the attended training programs, and total training hours for each employee during the year
17.3.5.	Ability to provide training expense report
17.3.6.	Ability to provide training evaluation report for all employees
17.3.7.	Ability to provide report of the attendance and leave data for all the employees in the organisation
17.3.8.	Ability to generate daily/weekly/monthly/annually complaint/grievance reports
17.3.9.	Ability to generate complaint/grievance resolution cycle time and generate exception report for overdue cases
17.4.	**Marketing**
17.4.1.	Ability to generate the sales report based on the following parameters Region/Channel/SKU/Variant Annual/Monthly/Weekly/Daily/Shift wise sales Distributor/Sales Agent wise
17.4.2.	Ability to generate list of SKU's to be loaded into the vehicle according to the loading pass
17.4.3.	Ability to create vehicle utilization report comparing vehicle capacity to dispatch capacity
17.4.4.	Ability to generate reports for dispatch done till date
17.4.5.	Ability to generate space utilization report of storage space compared to space utilized
17.4.6.	Ability to generate list of locations to be covered by quality staff during a shift, by taking into account minimum number of tankers during that shift and all locations covered in a month
17.4.7.	Ability to generate list of invoices which are due
17.4.8.	Ability to generate day end account details cash book report. Following details needs to be captured: •Date •Opening balance •Closing Balance •Credit •Demand •Inventory
17.4.9.	Ability to generate daily/weekly/monthly/annually complaint/grievance reports
17.4.10.	Ability to generate complaint/grievance resolution cycle time and generate exception report for overdue cases
17.5.	**Production**

S. No.	Functional Requirement
17.5.1.	Ability to generate reports on by-product treatment (e.g. sales of by-product, wastages etc)
17.5.2.	Provision to generate report on tanker arrival in a day giving details such as total tankers arrival in a day, total number of tankers emptied, total number of tankers parked
17.5.3.	Provision to generate reports of tests on quality control such as: -Reports for acceptance tests carried out -Silo test report on quality control -Test reports for rejected tankers -Report on can sample testing of quality control -Report on samples below MD norms -Report on low FAT, SNF rejected tankers -Reports on conserved commodities -PPM test reports -Bacterological reports
17.5.4.	Provision to generate reports such as: -Manufacturing reports -Reports on tankers unloaded in a day -Daily milk position -Standard deviation with respect to water sample -Standard deviation with reference to milk sample -Report on plant temperature observation -Homogenization efficiency check -Third party reports on natural contaminants -Effluent generated -Effluent treated -Treated effluents used for gardening purposes
17.5.5.	Provision to generate reports such as: -Report on loading schedule as per the production targets -Report on sales projection -MIS / EMS (environment management system) monitoring report
17.5.6.	Provision to generate reports such as: -Daily production and dispatch report -Report indicating various processing losses -Plan vs actual production report -Yearly production report -Daily productivity sheet -Periodical stock transfer report -Power consumption report
17.5.7.	Provision to generate reports such as: -Report on liters of ice cream received from vendor -Target vs actual outsource quantities -Report on balance stock available with the vendor
17.5.8.	Provision to generate reports such as: -Standardization reports -Pasteurization log book -PPM log book -Daily production report -Quality reports for batch traceability -Daily production report shift-wise and batch-wise -Production vs indented quantity

S. No.	Functional Requirement
	-Product recovery report on daily, weekly and monthly basis -Packing material recovery report -Online information regarding the commodities consumed
17.5.9.	Ability to provide the crate breakage report.
17.5.10.	Ability to provide the quality reports of dispatched products.
17.5.11.	Ability to generate recovery report on ingredients supplied to the outsourced units for manufacturing of various products
17.5.12.	Ability to prepare cumulative in-process inspection report delineating acceptance / rejections in a day
17.5.13.	Ability to generate the periodic quality inspection report
17.5.14.	Ability to generate final batch analysis report
17.5.15.	Provision for a report on release of batches to be made available online
17.6.	**Input services**
17.6.1.	Ability to generate reports corresponding to individuals as and when required
17.6.2.	Provision to generate the following reports should be available: -AI technician wise achievement (No. of AI done during a selected period) -AI Conception Report (No. of AI done for an animal to confirm pregnancy) -Dates and time between two AI -No. of calf borne -Inventory Management (Opening & Closing stock records)
17.6.3.	Provision to compile a comprehensive list of Cattle Feed requirement as received from various SOCIETYs and forward it to union at BMC/CC level. Compiled list to contain key details like BMC/CC code, SOCIETY code along with Order details like Item Code and total quantity
17.6.4.	Provision to generate compiled reports for the following: -Cattle details as captured for AI service -Disease details (Symptoms & Diagnosis) -Treatment details (Medicine used) -Details of payment receipt from member -Travel details of veterinarian (Starting point & kilometers covered)
17.6.5.	Provision to generate the following reports should be available: -AI technician wise achievement (No. of AI done during a selected period) -AI Conception Report (No. of AI done for an animal to confirm pregnancy) -Dates and time between two AI -No. of calf borne -Inventory Management (Opening & Closing stock records)
17.6.6.	Ability to generate periodic quality report from the Distributor / C&F agent on the material at the stock
17.7.	**Transportation**
17.7.1.	Provision to create a compiled report of all defaults along with deductions as applicable
17.7.2.	Provision to generate a vehicle utilization report of capacity vs capacity utilized during each dispatch
17.8.	**Knowledge Management**
17.8.1.	Ability to generate daily/weekly/monthly report on user activities, most frequented pages etc
17.9.	**Finance**
17.9.1.	Provision to fetch a list of unsuccessful transactions from the bank report along with account details and reason for payment failure
17.9.2.	Provision to prepare a final list of unresolved issues.
17.9.3.	Ability to present comparative assessment between projected and actual expenses for a chosen time period in a report format

S. No.	Functional Requirement
17.9.4.	Provision to prepare Price Incentive Report with tentative figures at the end of every financial year
17.9.5.	Ability to generate report on budget overruns for each budget head location/ unit wise
17.9.6.	Ability Report to warn insurance policies expiry dates or premium due date
17.9.7.	Ability to generate report on year-to-date payments made
17.9.8.	Ability to generate report on debtors ageing for different parameters
17.9.9.	Ability to generate receivables report item wise and total quantity sold in quantity and value
17.9.10.	Ability to generate report on Cheques dishonored and amount recovered from customers along with the reason code and amount recoverable from customers
17.9.11.	Ability to provide for customer ledger balances with quantity and value and a report on total money collected, outstanding statement.
17.9.12.	Ability to generate a report on sales commission payable
17.9.13.	Ability to generate report on provision made for bad debts on year to date basis
17.9.14.	Ability to generate report on sales discrepancies / shortages reported
17.9.15.	Ability to provide for a report on transporter payments along with the quantity of milk carried and shortages reported
17.9.16.	Analytical, summary and standard reports that provide an accurate picture of the accounts payable including invoice, TDS, payment amount
17.9.17.	Ability to generate report on year-to-date payments made to the vendor
17.9.18.	Ability to generate report on discounts availed by the company
17.10.	**Purchase and Contract Management**
17.10.1.	Ability to generate report on indent created for a particular period
17.10.2.	Ability to generate report on indents pending
17.10.3.	Ability to generate report on changes made to the indents
17.10.4.	Ability to generate vendor analysis reports for spend analysis, performance in terms of on-time in-full delivery, rejections, etc.
17.10.5.	Ability to generate vendor list according to the items/ services provided
17.10.6.	Ability to generate report on addition/deletion of vendor for a particular period
17.10.7.	Ability to generate a list of vendors whom the bid documents need to be given
17.10.8.	Ability to generate the reports such as list of all open and limited tenders, report on EMD / security deposit collected, report on contract amendments
17.10.9.	Ability to generate AMC due report i.e. prior intimation concerning expiry to the purchase and user department
17.10.10.	Ability to generate the report such as list of AMC created, report on payments made to the contractor, report on changes made to AMC, report on vendor performance
17.11.	**Asset Management**
17.11.1.	Ability to generate inventory reports
17.11.2.	Provision to generate maintenance reports containing data like date of request and response time
17.12.	**BI-Reporting**
17.12.1.	Ability to generate customized report by applying mathematical calculations on the database values.
17.12.2.	Ability to prepare overall performance evaluation report for each project by displaying actual v/s controlled v/s budgeted values for costs, efforts, schedules, profit and cash flows
17.12.3.	Ability to generate report on manpower Resource availability v/s commitments – Current and future projections – Department wise, division wise, discipline wise, level wise and corporate wise

S. No.	Functional Requirement
17.13.	**Engineering**
17.13.1.	Ability to report time and duration of various maintenance resources utilized including maintenance engineers, supervisors and administrative personnel and external service contractors be reported
17.13.2.	Ability to generate the reports related to TPM (total productivity management) such as MTTR, MTBR, number of breakdowns and failures, overall equipment efficiency etc.
17.13.3.	Ability to generate inspection report in the system so as to decide on material acceptance/rejection
17.13.4.	Functionality to generate the reports such as: complaint redressal reports; list of assets available; list of unattended complaints; repetitive faults; complaints attended after specified time; complaint redressal time Vs specified time; report for penalty deduction after specified time
17.13.5.	Functionality to generate pending report of return / dispatch advises for asset placement /return

9.18. BI & Dashboard

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
18.1.	**BI & Dashboard**
18.1.1.	Provision for the designated employees to view the MIS reports through the dashboard.
18.1.2.	Ability to generate Search Advanced Queries on any of the database attributes across the database. Ability to choose the options in the attributes to be displayed in the result and export to excel in report forms. Ability to save search queries for future.
18.1.3.	Ability to capture attributes related to Milk procurement and other relate data for generation of MIS reports
18.1.4.	Ability to capture key learning records as outcome of BI analysis of database records (cost reports, close out reports, feedback reports and room discussions)
18.1.5.	Ability to create Corporate Business plans (for projected targets, revenues, orders, success factor)
18.1.6.	Ability to subcategorize Business plans (e.g. by Industry, country, client and other such parameters)
18.1.7.	Ability to perform simple filtering by manually selecting the dimensional items during the course of analysis
18.1.8.	Ability to perform simple filtering based on mathematical expressions during the course of analysis
18.1.9.	Ability to perform complex filtering by defining set operations (union, intersect, minus) during the course of analysis
18.1.10.	Ability to perform complex filtering by defining sub queries (filtering based on results of another query) during the course of analysis
18.1.11.	Ability to perform complex filtering by defining rank operations (top/ bottom/ count/ percentage)
18.1.12.	Ability to set up alerts to highlight numbers based on threshold settings during the course of analysis
18.1.13.	Ability to perform automatic sorting based on numbers, alphabets, and dates or manually sort them during the course of analysis
18.1.14.	Ability to share reports with individual users or group of users easily internally within the reporting environment via shared folders or externally outside of the reporting environment via email and ftp sites
18.1.15.	Ability to print the reports and export them to other formats
18.1.16.	Ability to incorporate changes in the reports through a refresh
18.1.17.	Ability to allow users to define information of the report for other users to understand the report
18.1.18.	Ability to save the input variables into scenarios to allow them to compare scenario results
18.1.19.	Ability to define the stakeholders and organize them into organization chart, to define objectives and initiatives into a strategy, to define and assign metrics as KPIs to the strategies
18.1.20.	Ability to add new customizable reports to the built in reports of standard queries
18.1.21.	Ability to perform pivoting to change the permutation of any graph or table to view information in various perspectives during the course of analysis
18.1.22.	Ability to drill down on any graph or table to view the detailed breakdown on any value during the course of analysis
18.1.23.	Ability to base the drill down path on business hierarchies that are not necessarily organized in the same manner as with the physical representation in the database. Users to be able to select a drill down path of choice

9.19. Portal/Website Requirement

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
19.1.	**Member Access and Capabilities**
19.1.1.	Ability to login using the username and password assigned and view/submit member details
19.1.2.	Ability to create/update/modify consent note, if any
19.1.3.	Ability to modify/update instalment details for unpaid share capital amount for the member
19.1.4.	Ability to view milk commitment details
19.1.5.	Ability to reply to membership termination notice letter, if any
19.1.6.	Ability to view Folio details
19.1.7.	Ability to initiate surrender of share
19.1.8.	Provision to submit service request/ query/ grievance
19.1.9.	Ability for the view AGM notices, if any
19.1.10.	Ability to provide acknowledgement to the AGM notice
19.1.11.	Ability to give proxy to the concerned representative to attend the annual general meeting on their behalf
19.1.12.	Ability to view dividends, patronage bonus, additional benefits if any
19.1.13.	Ability to export all the reports to excel or text formats
19.1.14.	Ability to print generated reports
19.1.15.	Ability to provide the comments for failure to meet the criteria for continuation of membership
19.1.16.	Ability to update/modify KYP information
19.1.17.	Ability to track and manage complaints/grievances
19.2.	**Customer Access and Capabilities**
19.2.1.	Ability to login and view the customer details
19.2.2.	Provision to place the sales order over the website
19.2.3.	Ability to create sales order by uploading the sales order details from the excel file.
19.2.4.	Ability to update/modify the sales order
19.2.5.	Ability to print the sales order
19.2.6.	Ability to email the sales order
19.2.7.	Provision sends the acknowledgement of the receipt of the material/SKU or through website.
19.2.8.	Ability to view the promotional schemes/discounts available
19.2.9.	Ability to track delivery status and details
19.2.10.	Ability to acknowledge the receipt of material
19.2.11.	Ability to submit service request/ query/ grievance/complaint
19.2.12.	Ability to track and manage complaints made
19.2.13.	Ability to view/download relevant documents for quality
19.2.14.	Ability to view deductions along with reason if any
19.2.15.	Ability to view due amount and due statement if any
19.2.16.	Ability to upload components/documents to intranet sites, internet sites
19.2.17.	Ability to download components/documents from intranet sites, internet sites
19.3.	**Employee Access**
19.3.1.	Ability for the employees to access the Employee Self Service (ESS) through login using the unique username and password
19.3.2.	Ability to upload components/documents
19.3.3.	Ability to download components/documents
19.3.4.	Ability to view general FAQ
19.3.5.	Ability to view details on the company: About the company, stakeholders detail, Press release, contact details etc

S. No.	Functional Requirement
19.3.6.	Ability to view details on various departments and location of company's operations
19.3.7.	Ability to provide links to the important items hosted in various in-house websites/intranet e.g. important circulars/ instructions/ policy documents etc.

9.20. Help Desk Management System

The functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
20.1.1.	Provision to provide flexibility of logging incident manually via windows GUI and web interface.
20.1.2.	Provision for the web interface console of the incident tracking system to allow viewing, updating and closing of incident tickets.
20.1.3.	Provision for the trouble-ticket to be generated for each complaint and given to asset owner immediately as well as part of email.
20.1.4.	Helpdesk system to allow detailed multiple levels/tiers of categorization on the type of security incident being logged.
20.1.5.	Provision to provide classification to differentiate the criticality of the security incident via the priority levels, severity levels and impact levels.
20.1.6.	Provision to allow SLA to be associated with a ticket based on priority, severity, incident type, requestor, asset, location or group individually as well as collectively.
20.1.7.	Ability to maintain the SLA for each item/service. The system should be able to generate report on the SLA violation or regular SLA compliance levels.
20.1.8.	Ability to sort requests based on how close are the requests to violate their defined SLAs.
20.1.9.	Provision to support multiple work shifts for SLA & automatic ticket assignment.
20.1.10.	System should support the holiday definition & SLA clock should stop on holiday or non-working days. SLA clock should stop after the analyst shift is over in case of non 24x7 support environment
20.1.11.	Provision for the helpdesk administrator to define escalation policy, with multiple levels & notification, through easy to use window GUI / console.
20.1.12.	System should provide a Knowledge base to store history of useful incident resolution
20.1.13.	Provision to have an updateable knowledge base for technical analysis and further help end-users to search solutions for previously solved issues
20.1.14.	Ability to provide web based knowledge tools that provides the flexibility to search based on filter noise words methods, list the commonly used security knowledge article methods and deduction methods using a series of questions and answers.
20.1.15.	Allow users to bookmarks their favourite security knowledge articles for quick references.
20.1.16.	Feature to specify an expiration date to a document so that if the same becomes irrelevant for an organization it will be unpublished (removed/expired).
20.1.17.	The knowledge tools should provide grouping access on different security knowledge articles for different group of users.
20.1.18.	Provide seamless integration to generate events/incident automatically from NMS / EMS
20.1.19.	Ability to provide detail asset information on hardware and software inventory through seamless integration with asset management software.
20.1.20.	Provision to associate each incident to multiple activity logs entries manually or automatically events / incidents from other security tools or EMS / NMS.
20.1.21.	Provision for categorization on the type of incident being logged
20.1.22.	Provide classification to differentiate the criticality of the incident via the priority levels, severity levels and impact levels
20.1.23.	Provide audit logs and reports to track the updating of each incident ticket.
20.1.24.	Proposed incident tracking system would be ITIL compliant.
20.1.25.	Ability to do any customizations or policy updates in flash with zero or very minimal

S. No.	Functional Requirement
	coding or down time.
20.1.26.	Ability to integrate with Enterprise Management System event management and support automatic problem registration, based on predefined policies.
20.1.27.	Ability to log and escalate user interactions and requests
20.1.28.	Provision to support tracking of SLA (service level agreements) for call requests within the help desk through service types.
20.1.29.	Ability to assign call requests to technical staff manually as well as automatically based on predefined rules, and should support notification and escalation over email, web etc.
20.1.30.	Provision to provide status of registered calls to end-users over email and through web
20.1.31.	System should provide web based administration so that the same can be performed from anywhere.
20.1.32.	Provision for a customized Management Dashboard for senior executives with live reports from helpdesk database
20.1.33.	Provision for an integrated Configuration Management database for strong Change Management capabilities and the ability to integrate with existing Helpdesk deployed.
20.1.34.	Provisions for Configuration Management database to auto populate the relationship between configuration items.

9.21. Non-Functional Requirement Specifications

The non-functional requirements are essential for execution and satisfactory implementation of IDMS solution shall be deemed to include and cover but not limited to the following:

S. No.	Functional Requirement
21.1.	**General Requirements of IT Infrastructure**
21.1.1.	The solution should be highly scalable and capable of delivering high performance as & when transaction volumes/ users increases without compromising on the response time
21.1.2.	All components of the IT Infrastructure should be based on open standards to avoid compatibility issues
21.1.3.	The IT Infrastructure should have ability to withstand all single point of failure by providing CC/BMC features
21.1.4.	The IT Infrastructure should support the use of fault tolerant multiprocessor architecture & CC/BMC processing
21.1.5.	The IT Infrastructure should support auto-switching to available server in case of server failure
21.1.6.	The IT Infrastructure should support distributed processing
21.1.7.	The IT Infrastructure should support load balancing
21.1.8.	It should be possible to configure data replication synchronously or asynchronously
21.1.9.	The solution proposed should include servers with latest CPU architecture offered by the hardware provider
21.1.10.	The solution shall be supported on client with Mobile Devices (PDA)
21.1.11.	The IT infrastructure should support Windows Vista, Windows XP, Windows 2000, Windows NT, Windows 98 SE, Linux & Unix Operating System.
21.1.12.	The development infrastructure in the proposed solution will be needed to support ongoing development/upgrade needs during and post implementation.
21.1.13.	The Quality Assurance infrastructure in the proposed solution will be needed for conducting tests and trainings during and post implementation
21.1.14.	The solution should support N-tier architecture
21.1.15.	The solution should support Thin client
21.1.16.	The solution shall run on native browser with additional plug in's that should be freely downloadable and should support at the minimum MS IE, Netscape, Firefox Mozilla
21.1.17.	User Interface should require only standards compliant browsers with standard support for Javascript and HTML. Full fledged functionality of IDMS should be accessible through standard browser without any additional software installation.
21.1.18.	The solution should perform all functions with keyboard support (mouse need not be mandatory)
21.1.19.	The proposed solution should have the following operating flexibility; - Accommodate multiple levels of Organization structure - Multiple financial years processing capabilities - To modify and reorganize all menus - Multi-user logging in remote location - Facility for rearranging labels & fields of screens & deleting fields, which are not required by users - Open work group environment where users can access same information at the same time
21.2.	**Globalization**
21.2.1.	The solution should support multi-location
21.3.	**Modularity**

S. No.	Functional Requirement
21.3.1.	The solution will initially be required to cover a range of business process modules as detailed in the existing FRS, but it should allow addition of more modules or more users in any module as and when required. The solution proposed should be able to integrate with solutions/products/applications on Open standards
21.4.	**Flexibility**
21.4.1.	The solution should be adaptable to changing practices of Dairy industry and in case need arise to customize to specific needs, it should be possible to do the same in the form of add-ons and routines that can be plugged/unplugged from the base product as the situation arises
21.5.	**Data Model**
21.5.1.	The solution should use a single unified data model hosted on the database
21.5.2.	Data redundancy across modules must be minimized to eliminate real time synchronization needs
21.6.	**Integration & Interfacing**
21.6.1.	The solution shall provide application architecture which can be integrated with third party/ legacy applications using a middleware technology (The Bidders should provide a list of middleware which are compatible with the proposed solution)
21.6.2.	The solution should be remote access integration compatible for remote operation of System administration, Security Management & Diagnostics/ Fine tuning tools
21.6.3.	The solution should support traditional integration - Bulk load of flat files - Application Programming Interface (API) based integration - Message based integration
21.6.4.	The solution should support modern integration - Event based non-invasive integration - Business process Execution Language (BPEL) - Business Messaging protocols like EDI, Metal-XML, Rosetta Net, ebXML, OASIS, AISI
21.6.5.	Bulk Load of Flat Files - Should support verification of data integrity before the data is loaded into the package tables - In case of errors, it should provide a list of rows that have produced errors and should not load any rows from the flat file
21.6.6.	Messaging based integration - Should support guaranteed, delivery of messages - Should use XML based messages - Should support standard transport protocols like http, https, ftp, ftps, imap and smtp
21.6.7.	Event based Integration - The package should provide event based semaphores - It should provide the capability to setup subscriptions/actions on the semaphores to launch other programs in the package, launch workflows in the package, send messages to other applications using messaging based integration, launch external processes using the BPEL and SOA architecture for pan-application process orchestration - The semaphores must provide details of the event for subscribing processes
21.6.8.	BPEL based Integration - Should support a drag and drop GUI based process modeler for constructing business flows

S. No.	Functional Requirement
	- Should be able to orchestrate process flows that are external to the integrated packages - Should support both synchronous and asynchronous integration flows
21.6.9.	The IDMS should include a catalogue/directory of all the interfaces available for integration
21.6.10.	Integration based on open standards based platform like SOA
21.6.11.	Should support sustainable integrations that survive upgrades
21.7.	**Data Migration**
21.7.1.	The solution should have automatic way of migrating the data of existing database in case of data structure change during transfer to new versions
21.7.2.	The solution should support export and import of data possible from different legacy systems/ other systems/ databases in different file formats (Text, Excel, MS-Word, XML) & on specified time intervals
21.8.	**Data Validation**
21.8.1.	It should have the ability to assign validation on specific fields based on entries in the data validation reference file
21.9.	**Security**
21.9.1.	The application should support SSL & digital certificate
21.9.2.	The solution should be capable of providing Authorization by the transaction type, User Name, User Role
21.9.3.	The solution should be capable of providing One user multiple roles and vice versa
21.9.4.	The solution should be capable of providing automatic timeout for transaction entry
21.9.5.	The solution should be capable of providing automatic timeout for user (log out)
21.9.6.	The solution should be capable of providing Time restriction on transaction
21.9.7.	The solution should support password encryption while passing on wire
21.9.8.	The solution should be capable of providing terminal soft lock facility
21.9.9.	Ability to allow definition of rules for password composition and password encryption as per aavin's IT policy
21.9.10.	System should support configurable password policies including - Password expiry - Password complexity - Password history and reuse policy - Forced password change on first log on
21.9.11.	Ability to configure the number of permissible log-in attempts.
21.9.12.	Ability to handle data updation/deletion/creation only through application layer
21.9.13.	Session limits must exist for the application. For each session type, there must be limits on the number of sessions per user or process ID and the maximum time length of an idle session
21.9.14.	System should allow proxy users. For example, an executive can designate an assistant as a proxy, allowing that assistant to create, edit or approve transactions on behalf of that executive. The audit thereafter should state that the action was performed by the proxy user on behalf of a particular user
21.9.15.	The solution must not enable users to circumvent the intended user interface to access resources in its supporting infrastructure
21.9.16.	Ability of system to display an appropriate warning message upon user logon. The warning message need not include the following four general elements verbatim but must convey the same meaning: - Use of application constitutes the user's consent to monitoring. - Use of application is limited to official Login use only. - Unauthorized use is subject to prosecution. - Notice that this is a Login system

S. No.	Functional Requirement
21.9.17.	Ability to provide automatic time out for entry transaction
21.9.18.	Should not require opening of any special protocols for connecting the user client to the web/ application server. All communication should be on HTTP or HTTPs
21.9.19.	The database should be certified at EAL4 level for security
21.9.20.	The database should support role based access control, user based privileges
21.9.21.	The database should support password management mechanism with expirable passwords and password management.
21.9.22.	The database should support the resource allocated to the per user session.
21.9.23.	The database should support standalone / integrate with Operating system security.
21.9.24.	The system should have the option to encrypt data before transferring over a network.
21.9.25.	The system should have the option to encrypt the data stored in the database.
21.10.	**Governance & Compliance**
21.10.1.	The solution should have the ability to provide Segregation of Duties (SoD) rules
21.10.2.	The solution should have the ability to be able to identify risks across multiple applications
21.10.3.	The solution should have the ability to provide capabilities for Rules Management
21.10.4.	The solution should have the ability to provide audit controls for mitigation of risks
21.10.5.	The solution should have the ability to enforce risk prevention
21.10.6.	The solution should have the ability to provide automated remediation options when conflicts are found with integrated workflow
21.10.7.	The solution should have the ability to provide the dynamic drill down capabilities to facilitate proactive analysis and problem resolution
21.10.8.	The solution should have the ability to enable automation of identification of SOD conflicts at each user level
21.10.9.	The solution should have the ability to provide risk and SoD analysis at user, role, transaction, and authorization object field value levels
21.10.10.	The solution should have the ability to have the simulation facility before the introduction of a changed role against the current users of that role in order to identify hidden risks at the user level
21.10.11.	The solution should have the ability of system to enable creation and management of roles
21.10.12.	The solution should have the ability to enable documenting and managing changes to role definition over time including audit trail of all changes
21.10.13.	The solution should have the ability to enable the user to select the appropriate Roles to be assigned to him from the valid Roles
21.10.14.	The solution should have the ability to have the ability to analyze the selected Roles in a request against the SoD matrix in real time, to prevent any possibility of risk, fraud or violations
21.10.15.	The solution should have the ability to provide secure and auditable privileged user access
21.10.16.	The solution should have the ability to enable the privileged user access to be automatically monitored.
21.10.17.	The solution should have the ability to not impact system performance while auditing and monitoring of usage of the solution
21.10.18.	The solution should have the ability to provide dashboards that display information geared to the needs of different users, such as business process experts, auditors and IT
21.10.19.	The solution should have the ability to generate and distribute reports detailing SoD conflicts and mark those that have an approved exception

S. No.	Functional Requirement
21.10.20.	Application role based access control should enforce separation of duties. Particular administrative and user functions should be restricted to certain roles.
21.10.21.	The system should detect orphan accounts & rogue accounts which have violated the entitlement policy
21.11.	**User Access Management**
21.11.1.	The system must have proper security and maintenance facility which limits access to the system and its various functions to the users delegated with appropriate authority. - Access to modules / functions within modules restricted to authorized users - It should provide logging by user and terminal, the date and time of all transactions with details of creation, reading, updating, deletion or printing. - Access should be restricted to different levels as program, module, transaction, etc. - Notify security administrator of unauthorized access or attempted access and record in a log with reporting. - Multilevel security system at operator, supervisors, module owners, administrator level.
21.11.2.	The solution should have a business role management solution integrated with the user management solution
21.11.3.	The solution should have the ability to integrate with directory services for authentication and authorization and support the following features
21.11.4.	Support of LDAP (Lightweight Directory Access Protocol) to allow systems access to the directory
21.11.5.	The system should provide capabilities to receive inputs from Human resource management system with respect to user information: In order to get all the user data into the provisioning tool without manually recreating them, it must be possible to get the data and then the subsequent changes from a trusted data source. Most probably such a store with integrity will be the HRMS solution. Hence the provisioning tool must have an option to accept a feed from such systems
21.11.6.	Ability to support role based access control
21.11.7.	The system should provide capabilities to define “Time based Actions” so that enable, disable and delete actions can be driven by date attributes: In any organization a user might be need to play a designated role for a specific known period of time. In such scenarios the tool must provide capabilities for time based actions so that the user can be provisioned / de-provisioned based on date attributes
21.11.8.	Ability to provide access level security for Entry forms at Field level - allow, Read only, Hide
21.11.9.	Ability providing access level security for Entry forms at Transaction level - allow / deny
21.11.10.	Allow providing access level security for reports at Field level - show / hide
21.11.11.	Allow providing access level security for reports at Transaction level - allow / deny
21.11.12.	Users should not be allowed to access the database directly
21.11.13.	Ability to provide authorization by user name
21.11.14.	Centralized repository of all identification and access control data
21.11.15.	The solution should have the ability to support multi-tier authentication where required
21.11.16.	The solution should have the ability to assign activities to roles, and map roles to users
21.11.17.	The solution should have the ability to provide user and user group authorization administration tool to assign security levels to functions and data, and allow the access by users / by groups with valid security level only
21.11.18.	The solution should have the ability to restrict users from unauthorized access by

S. No.	Functional Requirement
	allowing only the authorized users with valid profile/password to access only the allowed transaction, as well as be capable of logging off unauthorized users
21.11.19.	The solution should have the ability to provide multi-level access management. The following should be provided: - User identification - Limitation of user rights to perform operations - Data confidentiality provision - User actions audit and protocols
21.11.20.	Ability of system to support the following under user account management - Unique user IDs - Disabling of inactive user IDs
21.12.	**System Control & Audit**
21.12.1.	The system should be able to define audit trails, audit logs and transaction logging requirements (what, when, who has changed)
21.12.2.	It should enable audit trails on-line, tailor audit requirements by modules, call audit records to an archive based on date or other recorded audit details. The system should allow recovery of data in case of hardware failure and data corruption. It should be able to perform recovery to a point of time, to known backup database
21.12.3.	The system shall ensure that the audit files are stored in un-editable formats
21.12.4.	The system should support audit trails at the data level. The basic audit details like the user name, date and time , operation performed (update or insert) for each transaction should be available easily , without having to run queries or reports
21.12.5.	It should be possible to track database super user activity in operating system files
21.12.6.	The solution should be capable of providing Audit Trail: Audit trail of Time Stamp & User ID stamp for the following: - Transactions - Parameter Changes
21.12.7.	All changes to data should be recorded in a separate table and should be stamped with the identity of the user/program and the time of the creation/change
21.12.8.	Views should be available for reporting on data changes
21.12.9.	It should be possible to audit users at the form level, user level, application module level and at the organizational role level
21.12.10.	The system should provide reports on user activity based on the role and the application that was used
21.12.11.	The system should support for auditing to track and monitor user behavior with details about the level of detailing stored by the system and ability to reverse changes
21.12.12.	Audit system should be centralized, secured and should provide detail insight in audit data (who did what, to what data and when)
21.12.13.	Audit system should enforce separation of duties between auditors and administrator
21.12.14.	Auditor's should have direct access to the audit system to view audit reports and should be able create custom reports
21.12.15.	Should capture before / after values from transaction logs and raise alert on critical and suspicious activity
21.12.16.	The system should have the ability to identify users that have exploited access privileges, identify root causes of conflicts and be capable of interrogating the security log
21.13.	**Network**
21.13.1.	The solution should support TCP/ IP, HTTP & HTTPs for all traffic between the user screens & the system
21.13.2.	The solution should support the following network types: - LAN & WAN

S. No.	Functional Requirement
	- Leased Lines - ASDL lines - Satellite Networks - Mobile data service network (GPRS) - MPLS based networks - VPNs
21.14.	**Offline Solution**
21.14.1.	The solution should have the ability of system to operate in offline mode
21.14.2.	The solution should have the ability to work on limited processes with limited data of last 15 days when the communication is down
21.14.3.	The solution should have the ability to re-synchronize data automatically whenever communication becomes available
21.14.4.	The Offline Solution should support an Architecture of Local Client with a Selected Business Logic
21.14.5.	The Offline Solution Should have Local Data on the offline client to carry out the Transactions
21.14.6.	The Offline Solution should support an Architecture of Data Synchronization, Device Administration
21.14.7.	The Offline Solution should support Selected Business Logic Copy from the Master
21.14.8.	The Offline Application should support the following: - Local data encryption should be supported on the offline Device - Encrypted data synchronization - Password changes - Remote wipe device data - Non-repudiation - Security incidents trigger actions e.g. lock device
21.15.	**Help**
21.15.1.	The solution should provide context based help facilities wherein the users can obtain system specific technical/ functional help online
21.15.2.	The system should provide online context-based help facilities at field level and also online help at function, screen and field level. Interactive tutorial and demo package should also be provided
21.16.	**User Interface**
21.16.1.	The solution should have unified, easy, flexible and user friendly interface enabling the following settings - Personal User menu - Personal User settings - Field Placement on screen - Field composition on screen
21.16.2.	The user interfaces should be friendly and GUI/browser based
21.16.3.	The application pages should be partially refreshed as against the entire page when a user performs certain actions/ changes
21.16.4.	All modules should be homogenous with respect to keyboard use, screen layout and menu operations with Graphic User Interface (GUI) support
21.16.5.	The GUI Form Administration should support the following without coding effort: - Changing fields or tab labels - Hiding fields or tabs - Changing the position or size of field or labels - Adding restrictions like mandatory or not - Setting default value in a field - Changing list of value (LOV) contents

S. No.	Functional Requirement
21.16.6.	The solution should have the ability to provide UI suitable for non-technical business users and IT experts
21.16.7.	There should be sufficient edit and validation checks in the system
21.16.8.	Capability to setup logic to trap conditions to pop messages in response to conditions like logical data entry errors, certain conditions etc without coding effort, which does not require additional steps to be retained during an upgrade
21.16.9.	It should provide safeguards to prevent damage to data from operator errors, simultaneous updates, module unavailability or system failures
21.16.10.	It should have facility to display confirmation / warning windows for deletes, changes etc
21.16.11.	The system should provide consistent screen layouts and access methods across all modules so that they look and behave the same
21.16.12.	It should provide on-line error reporting and use a menu-based system with facilities to bypass menus by experienced operators
21.16.13.	The system should provide drill down facility to next level of details and so on
21.16.14.	The Solution should provide user friendly interfaces for transactions, screen navigation, query, generation of reports, data exports, etc
21.16.15.	Ability to provide these configurations down to the user level so that the screen can be made to have different functionality for a given user (for example one user can only see limited fields, while another can only query a screen
21.16.16.	When a user opens a form, the fields should be displayed according to user preferences and the data should be pre-populated with the relevant data subset
21.16.17.	Users should be able to choose a search option (simple search or advanced search).Users should be provided an option to add additional filtering criteria to the search such as adding 'AND' and 'OR' conditions
21.16.18.	It should be possible to add more fields to the data input screens for capturing additional business specific.
21.17.	**Upgradation**
21.17.1.	The upgrades should not affect the current version adversely
21.17.2.	The solution architecture should be with minimum package modifications so as to preserve the package upgrade
21.17.3.	The implementation procedure for the proposed solution must ensure that to the largest possible extent no changes are required to be incorporated in the base product's source code. This will ensure smooth migration to later versions of the base product
21.18.	**Source Control**
21.18.1.	The Solution should have built in source code control program or should support integration with any third party source code control program
21.19.	**Connectivity**
21.19.1.	The solution should support the connectivity to the database through ODBC, OLEDB, JDBC or through Native drivers
21.20.	**Workflow**
21.20.1.	The workflow should be an integral part of the solution
21.20.2.	The solution should have the ability to support automated workflow designed to address needs of business users
21.20.3.	The solution should have the ability to support multiple workflow paths that are automatically selected based on request/user attributes, including escalation paths
21.20.4.	The solution should support standard work flow languages
21.20.5.	The workflow should allow multi-step approval routing. Non repudiation of workflow is to be ensured using digital signature certificates

S. No.	Functional Requirement
21.20.6.	The workflow should have a rules engine that allows rules to be created to define approval hierarchies
21.20.7.	The workflow should hold transactions in pending status and not commit them until all approvals are obtained
21.20.8.	The workflow should be able to send notifications when manual intervention is required in a process
21.20.9.	The workflow should provide a web based end user interface that can integrate with the portal
21.20.10.	It should be possible to create workflow diagrams that can be shared with business users to verify the workflow
21.20.11.	The workflow should provide a drag and drop GUI based single/ common design tool to define and alter business process across all modules of IDMS
21.20.12.	A management console should be available to monitor workflow processes and to control processes that have errors in them
21.20.13.	Ability of system to have workflow with the ability to define business rules, including alerts and triggers
21.20.14.	The workflow should interface with email system supporting SMTP for sending out notifications and IMAP for receiving the notification responses
21.20.15.	It should be possible to sign approvals in workflow using digital certificate for legal purpose. Ability to verify the signed documents through an evidence store user interface after the signing process
21.20.16.	It should be possible to delegate certain notifications to another user for a certain period, without actually sharing the password
21.20.17.	This should also support creation of secondary workflow by any user in the main workflow, during any stage of the parent workflow and keep track of the same along with the parent workflow
21.21.	**Web Portal**
21.21.1.	The solution portal should allow for multiple portals to be displayed
21.21.2.	The solution portal support personalization and role based access
21.21.3.	The solution should provide a tool for content management
21.21.4.	The solution portal should enable authentication of users
21.21.5.	The solution should allow Single-sign on to other components possible through the portal
21.21.6.	The solution should include automatic indexing and searching Portal
21.22.	**Archival**
21.22.1.	The system should be able to archive data, based on user specified parameters (i.e. data range) and restore archival data for on-line use when required
21.23.	**Development Tools**
21.23.1.	The solution should have built in tools and utilities, which will enable TCMPF to enhance the IDMS solution for their requirement and maintain the software on their own
21.23.2.	All development tools should be GUI based. The tools to be provided for - Creating data entry screens - Fixed format reporting - User driven ad-hoc reports creation - ETL for importing data from external systems
21.23.3.	Development tools should not use proprietary languages for writing programs. Development Tools should be able to use Open standards based programming languages
21.24.	**Reporting Tools**
21.24.1.	The solution should be capable of scheduling a report for execution / refresh and/or

S. No.	Functional Requirement
	distribution and/or publish
21.24.2.	The solution should be capable of distributing reports through email as Body or Attachment
21.24.3.	The solution should permit viewing of reports through web
21.24.4.	The solution should permit prioritizing reports during execution
21.24.5.	The solution should be capable of publishing reports to a central store for access by different users
21.24.6.	The solution should allow user's to send report to specified user(s) at scheduled times
21.24.7.	The solution should have interface to search and filter the data of the report
21.24.8.	The solution should provide exception reporting mechanism
21.24.9.	The solution should provide Senior Management Dashboards
21.24.10.	The solution should be capable of drill down and drill up with the report tool
21.24.11.	The solution should be capable of creating ad-hoc queries and reports for analysis
21.24.12.	Should not require knowledge of SQL or database to create self service ad hoc reports
21.24.13.	The solution should support multiple column sorting, custom sorting
21.24.14.	The solution should be able to convert reports to MS-Excel, MS- Word & PDF format directly
21.24.15.	The solution should provide the following display formats in the reports - Sections - Tables - Pivots - Charts
21.24.16.	The solution should be capable of archiving reports and store them in Document Management System
21.24.17.	The solution should allow reports to be sent directly to networked Printer
21.24.18.	The solution should permit display of multiple result sets in the same document
21.24.19.	The solution should permit the user to browse through metadata for detailed information on objects to build adhoc reports
21.24.20.	The solution should facilitate the user to create custom objects/formulas for repeated use in reporting tool
21.24.21.	The solution should provide graphical interface for creating custom formulas
21.24.22.	The solution should have a GUI tool with drag and drop features to build reports
21.24.23.	The solution should permit conditional formatting, based on thresholds or data ranges for any cell in the report
21.24.24.	The solution should use existing MS-Word/PDF document for report template directly
21.24.25.	The solution should restrict access to data and report based on user responsibilities
21.24.26.	The solution should have the ability to allow users the following for creating their own views or reports with ease: - Select column - Apply filters and sort orders - Summation - Drill down / drill up - Averaging
21.25.	**Data Warehousing & ETL Tool**
21.25.1.	The solution should include an ETL tool that can be used to extract, transform and load data from disparate source systems and perform the necessary transformations to establish a common format
21.25.2.	The solution should support batch data extraction, transformation and loading
21.25.3.	The solution should have an user-friendly GUI for the users to handle ETL processes,

S. No.	Functional Requirement
	such as: - Modify data feeds - Change of Business logic used for data ETL - Modify ETL parameters - Create, edit and execute a large number of transformation rules
21.25.4.	The solution should support Import & export wizard and supporting connections with source and destination adapters including OLEDB, ADO .Net, Flat files, and XML formats
21.25.5.	The solution should include a data mining tool that provides bottom-up, discovery-driven data analysis
21.25.6.	The solution should provide data mining algorithms which help discover patterns and uncover business data to reveal hidden trends
21.25.7.	The solution should support analysts by creating analytic starting pints including graphs, key performance indicators (KPIs), data grids and advanced visualizations like Decomposition Tree, Performance Map and Perspective View.
21.25.8.	The solution should support What if analysis
21.25.9.	The solution should support decision trees, Association rules, sequence CC/BMC, Time series, Neural Networks, text Mining etc
21.25.10.	The solution should support data mining tools (including Wizards, Editors, Query Builders, Lift Chart)
21.25.11.	The solution should support Data mining Add-ins to empower end user to perform advanced analysis in MS Excel & MS Visio
21.25.12.	The solution should include a Rule based Data Cleansing/Enhancement tool
21.25.13.	The solution should have the ability to extract or refresh information directly from within the MS Office application (Excel, PowerPoint and Word) without the need to export from another existing report
21.25.14.	The solution should have the ability to have Scheduling capabilities based on events, calendars, or specific points in time
21.25.15.	The solution should have the ability to support multiple Export format support including PDF, MS XL, MS Word, RTF and HTML
21.25.16.	The solution should have the ability so that users define/change any number of charts and tables with different permutation of the data via a graphical user interface during the course of analysis
21.25.17.	The solution should have the ability to enable users to perform pivoting to change the permutation of any graph or table to view information in various perspectives during the course of analysis
21.25.18.	The solution should have the ability to enable users to perform drill down on any graph or table to view the detail breakdown on any value during the course of analysis
21.25.19.	The solution should have the ability to enable users perform complex filtering by defining sub queries (filtering based on results of another query) during the course of analysis
21.25.20.	The solution should have the ability to enable users to perform automatic sorting based on numbers, alphabets and dates or manually sort them during the course of analysis
21.25.21.	The solution should have the ability to perform predictive analysis against scorecard data and generate predictions for the KPIs contained in the scorecards
21.25.22.	The solution should have the ability of system to enable Users to print the report, export the report to other formats (excel, pdf) or email the report to other members in the community during the course of analysis
21.25.23.	The solution should have the ability to enable users to setup a schedule to print, export or email the report automatically

S. No.	Functional Requirement
21.25.24.	The solution should have the ability to enable users to combine personal data from Microsoft Excel, CSV and txt files and incorporate data into a single report, which can then be shared with other users through the platform
21.25.25.	The System should allow users provided with the capability to define information about the report so that other users in the community understands what business questions the report answers, the meaning of the business terms used and the link to other related reports
21.25.26.	The system to provide with the capability to key in notes to individual respective reports in the form of threaded messages for the purpose of discussion
21.25.27.	The system to provide with the capability to map predefined reports to business processes to build relationships between people, process and information
21.25.28.	The solution must allow the users to define the thresholds for each metric and to define the actions and alerts required when these thresholds are met
21.25.29.	The business intelligence platform must be built on a modern technology based on a services-oriented architecture for flexibility and extensibility
21.25.30.	The business intelligence platform must support for multiple platforms
21.25.31.	The business intelligence platform must be able to integrate to our existing web portals easily via portal services and portlets
21.25.32.	The tool must have the ability to access a broad range of technologies to cater for both the current environment and any new technologies that may be introduce in the future
21.25.33.	The solution must provide the capability to perform data profiling, data flow design, data mapping routines and debugging within the same designer and graphical user interface
21.25.34.	Ability of system to allow for any document or report be previewed before printing
21.25.35.	Ability of system to provide utilities to automate report distribution process, so that user is notified after a report is generated to facilitate easy retrieval
21.25.36.	Ability of system to provide functionality to users in generating reports on their own without involving technical programming
21.25.37.	The reports should be available for time frames like weekly / daily / monthly / yearly
21.25.38.	The report data must support the feature of being exported to Excel, ASCII files, PDF, or HTML or third party reporting tools
21.25.39.	The system should provide for calculations, filters and exceptions during reporting
21.25.40.	The reporting feature should support the reports to be scheduled to run in batch
21.25.41.	The schedule to run the reports should be both event-based or time based
21.25.42.	Ability of system to support the feature of delivering the reports to the online users through email, portal, and report server
21.25.43.	Ability of system to provide for saving the report /queries for repetitive execution as and when required by the users
21.25.44.	The proposed solution should provide for a role-based dashboard with graphical reporting capabilities with executive summary and detailed drill down reports for business process owners, users, auditors, IT security
21.25.45.	Ability of system to provide graphics and charting capabilities
21.25.46.	Solution should provide the technology to build a business semantic layer that translates data source technology terms to business terms to enable business users to define information requirements without understanding the data source technology
21.25.47.	Ability of the business semantic layer to integrate with both relational database as well as OLAP server data sources
21.25.48.	Ability of the business semantic layer to be used by business users to build reports and dashboards via the web browser
21.25.49.	Ability of the Business semantic layer security to be managed within the solution for

S. No.	Functional Requirement
	data restrictions
21.25.50.	Ability to create flexible, highly formatted, pixel perfect and feature rich operational reports
21.25.51.	Should have scheduling capabilities based on events, calendars or specific points in time
21.25.52.	Should have User, group, object and folder security
21.25.53.	Should have repository for reusing common report objects across multiple reports
21.25.54.	Should have universal integration with other applications and portals
21.25.55.	Should have dynamic and cascading prompts feature
21.25.56.	Should have the ability to authenticate the user before any transaction to populate the model with data
21.25.57.	Should provide the administrators the ability to capture user activities, user log in attempts, report requests and other activities through reports and dashboards
21.25.58.	Should allow the administrator to define comprehensive security requirements easily with the ability to organize users into groups and inheriting user rights from groups
21.25.59.	Should support multiple platforms and scalability
21.25.60.	Should be able to integrate with other web portals via portal services

10. Recommended changes

10.1. Overview of Recommendations

Process change recommendations below are provided with the aim of technology enablement of the processes in order to use the best of the breed technology solutions to meet its end business objectives.
The following section would include details of all the recommendations in terms of process changes envisaged by detailing the As-is and corresponding changed To-be processes. It is important to note that one recommendation may impact more than one process and function area, and hence each of these processes have been referred with their related details.

10.2. At Society

Overview To-be	• Data Capture from weigh scale, milk testing equipment • Data transfer should happen automatically through real time • Input services data entry should be enabled • Hard-copy data will continue to flow, wherever deemed necessary	
Impacted As-is processes	**Farmer Lifecycle Management**	
	Impacted As-is Activities	*Proposed changes*
	• Registration of new member is managed manually	• New member registration (unique farmer code)/ generation of new unique member code or deactivation of any existing member code in the system. • Farmer to produce member ID card at the time of ○ Pouring milk, ○ Receiving payment, ○ Availing input services • Details of farmers to be recorded in the system at the time of new registration (name, address, RMN, cattle details)
	Milk Procurement Module	
	Impacted As-is Activities	*Proposed changes*
	• If there is any price revision, intimate the price chart to the unions and the unions will inform the society • Society milk cans are painted with certain colour codes • Manually maintain milk procurement register member/pourer details, milk detail (cow milk or buffalo milk) • Manually maintain the quality parameters of the sample taken for the pourers:	• Application running in devices would get the updated price information from central server • Recording of Can no. to be done manually by entering in the system • At the time of pouring each can(40 ltrs) of the society will be recorded in the system • Serially numbered milk cans to be maintained with the details of the milk pourer code pouring milk into the

○ Member name ○ Fat% ○ SNF% ○ Date ○ Time ○ Type of Milk ○ Rate ○ Weight ○ Total Amount • Manual preparation of route schedule and the hand over the dispatch sheet (carrying information about the quantity and quality of milk for each society) to the Truck Assistant. • The details of dispatch (number of cans) are noted down by the Truck Assistant in the trip sheet. • Get acknowledgement from the farmer for the milk supplied in the Milk Procurement Register • Make payments as per the register on a periodical basis	same. • Data Capture from weigh scale, milk testing equipment and linking the same to the Member code and print a receipt, which includes following information: ○ Member code ○ Member name ○ Fat% ○ SNF% ○ LR ○ Temperature ○ Date ○ Time/ Shift ○ Type of Milk ○ Rate ○ Quantity (litres) ○ Total Amount ○ Society Can no. • Route schedule prepared in the system using route optimization tools. Truck assistant master database to be created. Enter vehicle no. and submit to capture the IN time in the system. Input Driver, Driver license no., Truck assistant ID no. for authentication. • At the time of Dispatch capture the quantity and quality parameters and update the dispatch summary in the system • Handover Dispatch summary (containing no. of cans, quantity, quality parameters) through paper receipt and SMS to Truck assistant for each society along the route. • Generate payment report for a farmer and make payment and send SMS acknowledgement to the farmer
Input Services Management	
Impacted As-is Activities	• *Proposed changes*
• Details of cattle feed or other input services are maintained in separate registers and used to calculate the recoveries	• Enter information of cattle feed using application interface in the system • Raise request in the system for supply of cattle feed, semen straws, veterinary services etc. • Maintenance of inventory for the input services • Payment & receivables

		management for the input services provided
	Transportation	
	• *Impacted As-is Activities*	• *Proposed changes*
	• In time and Out time managed manually in registers	• Milk Recorder to enter time details in the system or Inward transporter to register his arrival
Technology Options Considered	1. Customized PC 2. Laptop 3. Mobile device	
Benefits	• Intelligent reports can be generated w.r.t procurement patterns • If an existing member code is deactivated no data would be accepted against that code • History to be built in the system about the farmer's pouring pattern, inputs consumed, payment history, etc. • Redundancy to be established for network connectivity to prevent stoppage of business due to network failure • Due to availability of data in real-time the payment cycle can also be reduced substantially • Reports w.r.t deductions from the payment to farmers can be generated • Direct data capture of milk quality & quantity parameters into the system • Milk Price Update happens automatically through the central server • Data entry feature for stock of value added services such as feed service, cattle registration and cattle feed/ AI/ veterinary services and system can provide details of the recoveries to be made • The cans are coded in order to enable traceability and also uniquely identify society cans	

4.2.1. Assessment of Technology Options

Technology Options	Functional Coverage	Cost Viability	Security	Ease of Maintenance
Customized PC	• Milk procurement • Asset Management • Input services	• High capital cost however covers all functionalities • Additional R&D cost as similar system for the rural areas are not readily available	• Most secure in terms of other options	• High maintenance • High resolution time as services required in rural areas • Dependency on vendor
Mobile device	• Milk procurement • Asset Management • Input services • Operations at field can be performed	• Cost effective among all options	• Prone to theft	• Low maintenance with online support

10.3. At Chilling Centre/Bulk Milk Cooler

Overview To-be	• Data Capture from weigh scale, milk testing equipment • Data transfer should happen automatically through real time • Hard-copy data will continue to flow, wherever deemed necessary	
	Milk procurement Module	
	Impacted As-is Activities	*Proposed changes*
	• Inward transporter reaches CC/ BMC with the procurement sheet. Entry time recorded • Procurement sheet contains information about no. of cans transported from each society and is handed over to Milk Recorder • Van arrives at CC/ BMC as per defined route map at pre-defined time • Milk Recorder makes entry of weight captured from weigh bowl and sends the sheet to Quality • Quality team conducts testing of samples and makes entry of the test results in the sheet and prepares a Daily Milk Receipt (DMR)	• Each society at the time of dispatch will update the following details in the system: ○ No. of cans ○ Transporter details ○ Fat, SNF ○ Quantity • Milk Recorder to enter time details in the system or Inward transporter to register his arrival at CC/BMC • Society to ensure recording of arrival time by inward transporter • BMC/ CC to access the data from server and update the quality & quantity details of the milk receipt • DMR prepared in the system and an acknowledgement is sent through SMS to each society • Acknowledgement contains the following information: ○ No. of cans received ○ Fat, SNF, temp., LR ○ Quantity received ○ Amount to be paid for the milk receipt • The society can also access the server and look into the details of milk supplied to CC/BMC/union for each shift and can generate periodical reports (including Fat, SNF loss) for the same • CC/BMC updates the DMR statement in the system which can be viewed by the union and can generate Milk bill through online interface
	• Create challan with details of vehicle, milk carried by transporter and destination of transporter. Following details are captured for creation of challan: ○ Tank weight	• Enter vehicle number and the other details pop up based on the same entered at the societies on the route. • Create challan through system. Following details are captured for creation of challan:

○ Fat/SNF percentage ○ Seal number ○ Vehicle details ○ Date ○ CC/BMCs name • Hand over challan to outward transporter	○ Tank weight ○ Fat/SNF percentage (contains history of Fat, SNF at the societies and also the details captured at the CC/ BMC) ○ Seal number ○ Vehicle details ○ Date ○ Time out • Vehicle tracking through GPS installed in the tanker • Fat and SNF loss statement to be prepared by the system
Engineering Module	
Impacted As-is Activities	*Proposed changes*
• Maintenance of assets and breakdown registers are maintained manually	• Master data of all the assets maintained in the system • Notify the breakdown in the system and send alert to the maintenance technician • Details for complaint resolution to be updated in the system
Inventory Management	
Impacted As-is Activities	*Proposed changes*
• Inventory levels of all materials managed manually in the stock register (for milk and all assets and consumables). For milk, the stock is added to the system on flushing the milk from the weigh-bowl to the silo.	• Master data to be maintained for all the materials. Stock levels of all materials (consumables) to be maintained in the system. On receipt of in-coming materials and on approval by Quality, GRN is raised and the stock level of the material (based on the material code) is updated in the system. • To be linked with milk procurement module in order to find out the stock levels in the silos and can be visible online. • Safety stock levels (and other inventory management logic) can be defined in the system for consumables and assets and when the stock levels fall below the safety stock levels, the system will generate alert to the purchase section for raising a PO.
Quality Module	
Impacted As-is Activities	*Proposed changes*
• Following test are performed –	• All quality test results/ reports

	Temperature Test, Acidity check for natural acidity & developed acidity, Alcohol test, Fat & SNF test by Garber method for Fat and Lactometer for SNF, MBR test and detergent test • Records off all the activities are maintained manually	of procured milk are captured and updated in the system through online interface • Quality test result of BMC/CC equipment and consumables updated in the system through online interface • Testing protocols for quality control to be available in the system • Schedule of field visit for quality checks generated through system
Technology Options Considered	1. Customized PC 2. Laptop 3. Mobile device	
Benefits	• CC/BMC would be connected to the central system through communication network which would work online. • Quality test reports, CIP records, transporter details, Equipment purchase/ maintenance can be accessed through the system • Exception SMS can be sent to concern team members in case of milk adulteration is identified and other similar scenarios with built-in escalation mechanism (to be defined) • History of assets with the parts replaced would be known for better asset costing • Intelligent reports can be generated in the system like mean time to repair, mean time between repairs • Maintenance schedule can be prepared and visible online • Replacement of spares to be tagged to the asset thereby depreciation can be managed efficiently • Stock levels at the silos visible online due to integration with milk procurement module. Stock levels of assets and consumables also visible online. • Safety stock levels can be defined in the system and when stock levels fall below safety stock, the system can generate alert to purchase personnel for initiating the procurement process. • Details of the incoming tanker/ vehicle can be entered in the system for verification of approved vehicles. Deviations can be noted and trends can be analyzed. • Online visibility of deviations in quality parameters and the ability to take decisions to accept/ reject milk based on workflow	

4.3.1. Assessment of Technology Options

Technology Options	Functional Coverage	Cost Viability	Security	Ease of Maintenance
GSM enabled Desktop/ Laptop/ Mobile device	• Milk procurement • Two way communication, Push & Pull both	• High capital cost without any additional functionality	• Highly secured	• Limited coverage by vendors, thus high resolution time
GSM modem	• Milk procurement • Two way communication, Push & Pull	• Lowest capital cost among other options	• Highly secured	• Low maintenance

	both			
Mobile device	• Milk procurement • Asset Management • Input services • Operations at field can be performed	• Cost effective among all options	• Prone to theft	• Low maintenance with online support

10.4. At District Union

Overview To-be	• Data Capture from weigh scale, milk testing equipment • Data transfer should happen automatically through real time • Hard-copy data will continue to flow, wherever deemed necessary	
Impacted As-is processes	**Milk procurement Module**	
	Impacted As-is Activities	*Proposed changes*
	• Inward transporter reaches District Union with the dispatch sheet. • DMR is received manually and received via email • Tanker/ van arrives at Union Dairy as per defined route map at pre-defined time • Weighment is entered manually in the register • Quality team conducts testing of samples and makes entry of the test results	• Enter vehicle number and the other details pop up based on the same entered at the destinations on the route • The weighment is automatically captured into the system from the weighbridge integrated with IDMS • On arriving at the downloading dock, Quality takes sample and performs testing, quality parameters are captured by IDMS through integration with quality testing equipment. • Download the milk into the silos • Print Acknowledgement and handover to transporter, system sends SMS acknowledgement to BMC/CC/Union • Reports can be generated from the system including Fat & SNF loss
	• For transfer to the Federation, create challan with details of vehicle, milk carried by transporter and destination of transporter. Following details are captured for creation of challan: ○ Tank weight ○ Fat/SNF percentage ○ Seal number ○ Vehicle details ○ Date ○ CC/BMCs name	• Create challan and update details in system using application interface with details of vehicle, milk carried by transporter and destination (Federation). Following details are captured for creation of challan: ○ Tank weight ○ Fat/SNF percentage ○ Seal number ○ Vehicle details ○ Date

• Hand over challan to outward transporter	○ Time out • Vehicle tracking through GPS installed in the tanker
Engineering Module	
Impacted As-is Activities	*Proposed changes*
• Maintenance of assets and breakdown registers are maintained manually	• Master data of all the assets maintained in the system • Notify the breakdown in the system and send alert to the maintenance technician • Details for complaint resolution to be updated in the system
Inventory Management	
Impacted As-is Activities	*Proposed changes*
• Inventory levels of all materials managed manually in the stock register (for milk and all assets and consumables). For milk, the stock is added to the system on flushing the milk from the weigh-bowl to the silo.	• Master data to be maintained for all the materials. Stock levels of all materials to be maintained in the system. On receipt of in-coming materials (other materials) and on approval by Quality, GRN is raised and the stock level of the material (based on the material code) is updated in the system. • To be linked with milk procurement module in order to find out the stock levels in the silos and can be visible online. • Safety stock levels can be defined in the system for consumables and assets and when the stock levels fall below the safety stock levels, the system will generate alert to the purchase section for raising a PO.
Transportation Module	
Impacted As-is Activities	*Proposed changes*
• Pre-defined time and distance schedule (route schedule) prepared and given to 3rd party transporter to ply between Union Dairies/ Federation Dairies and CC/BMC; and between BMC's and societies as per the identified route	• Transportation department to perform a onetime activity to take coordinates of all the units using a GPS device. In case of addition or deletion of collection point, system to optimize the route using GPS. • Superimpose all these coordinates / other details on a satellite image and prepare route maps • Procurement department to use new route maps for further

		correspondences and allocations
	• Fleet management done manually with vehicles allocated to the routes	• Transport department computes and finalizes distances between delivery points identified on the route by using available GIS maps • Create route plan in the system • System to have details of all vehicles and their capacities and cold storage capabilities. System to be used for allocating vehicles along the routes for delivery.
	• Receive mandatory documents from transporter which are as follows: ○ PAN Card/ Address Proof ○ Bank A/c details ○ Vehicle papers – Registration Certificate, Insurance and Fitness) ○ Stamp Paper of requisite value ○ Security deposit of requisite value as Demand Draft	• Receive mandatory documents from transporter and upload the same in the system database: ○ PAN Card/ Address Proof ○ Bank A/c details ○ Vehicle papers – Registration Certificate, Insurance and Fitness) ○ Stamp Paper of requisite value Security deposit of requisite value as Demand Draft • During registration process Install GPS device in the vehicle • Fleet management can be done effectively as we have the information online
	Quality Module	
	Impacted As-is Activities	*Proposed changes*
	• Following test are performed – Temperature Test, Acidity check for natural acidity & developed acidity, Alcohol test, Fat & SNF test by Garber method for Fat and Lactometer for SNF, MBR test and detergent test • Records off all the activities are maintained manually	• All quality test results/ reports of procured milk are captured and updated in the system through online interface • Quality test result of equipment and consumables updated in the system through online interface • Testing protocols for quality control to be available in the system • Schedule of field visit for quality checks can be planned in the system
	Production Module	
	Impacted As-is Activities	*Proposed changes*
	• Registers maintained for in-coming milk (milk receipt register) (raw materials in case of cattle-feed plant) and stock levels maintained	• Milk receipt trends (raw material receipt in case of cattle feed) can be viewed online and Production planning can be done based on the

	• Based on the quantity of milk to be produced (for local sales as well as sale to Federation) as per target set by Federation, and the available stock levels for raw milk, butter, SMP and other ingredients, are issued and processed in batches with quality tests carried out for every batch. • At FBD's details of the conversion to butter and SMP is carried out as per instruction from Planning Section of Federation and upon production, stock registers are updated.	same • Conversion targets for milk to butter and SMP visible online • Stock levels of materials ingredients, butter and SMP (and raw materials in case of cattle feed) available online • Quality parameters of milk received from the tanker available online (raw materials in case of cattle feed) and may be accepted/ rejected based on workflow defined in system • Quality parameters of milk can be entered at every stage of production and thereby fat and SNF loss monitoring can happen for each batch. Quality parameters of each shift of feed to be entered in the system • IDMS can integrate with intelligent systems like packing machines to know the number of finished products being produced. On being accepted by quality, the stock levels would get updated. • Quantity of milk that needs to be sent to the Federation is planned and transported accordingly. Production in-charge can plan effectively due to visibility of the vehicle movement Similarly based on the indents, cattle feed to be dispatched to the respective Unions/ Societies/ Govt. institutions • Multiple reports can be generated through the system like traceability, material consumption, material balancing report etc.
	Marketing Module	
	Impacted As-is Activities	*Proposed changes*
	• Based on the indents received and the sales trends, marketing informs the production target to the Production team • CD 15 document is prepared to acknowledge receipt of milk from the Production. • Milk is loaded in tubs from the dock and based on the communication received from control room • In case of products, the indent	• Indent details to be received and consolidated by system. Marketing and production can jointly prepare Sales & Operations Plan • Stock levels of finished products visible online hence dispatch plan can be made efficiently • Based on the quantity of milk to be loaded into the individual transporter vehicle, system calculates

	details are collected by MMO over phone from the parlours and agents and loaded into the vehicle accordingly. Lack of visibility on the sales and stock details in the parlours • Transaction history with suppliers and parlours maintained manually • Milk card sales is managed manually and customer database not maintained	the number of tubs to be loaded and person at the dock loads accordingly. Gate pass is issued after physical inspection and vehicle is checked at the gate and the security personnel may approve the vehicle for exit. Tub accounting can be managed through system. • Transaction history of suppliers (dues/ recoveries) maintained online and hence intelligent reporting can be done through system • Stock levels of the products in the parlours visible online and intelligent reports can be generated about the trends and pattern of sales in the parlours and the movement of stocks • Customer database to be maintained in the system and sale of cards to be tracked for better control
	Finance & Accounts	
	Impacted As-is Activities	*Proposed changes*
	• Receive DMR from CC/ BMC containing society wise details of payment due for each society • Prepare Milk Bill based on DMR received from CC and milk rates prevailing during the period under consideration • Calculate the payment to be made to society based on milk supplied and deductions, if any. • Send the payment sheet to finance & accounts for payment • Verify the sheet and calculations • Send the payment details to bank for making payments directly to society account • Manually preparing budget and payments details • Costing being managed manually	• System to provide for centralized definition of (master data) fixed asset categories, description, multiple depreciation rates, predefined residual values etc. • Automated system eliminates the task of reconciliation • Access DMR containing society wise details of milk supplied, payment due for each society through system • Transaction history (party-wise receivables and payables) to be visible online. • System generated payment advice can be sent to bank for making payments • Budget preparation and control to be more efficient due to preparing and approving online through system. Budget balance to be visible (authorized personnel) online. • Taxation details can be defined in the system and the business logic for the same to be defined in the system enabling the

		users to generate appropriate invoices through the system. • Costing can be managed using the system
	Payments to vendors	
	Impacted As-is Activities	*Proposed changes*
	• Receive original bill from requesting department with approvals along with supporting documents • Verify the bill against the agreed rates/ pre-approved document, supporting documents and note on bills especially in case of deductions • If there is any discrepancy, send the documents back to requesting department. Otherwise process payment • Send the payment advice to bank for making payments to vendors • Make payment entry in books of accounts • File original bills and supporting documents for further reference with accounts department	• Requesting department enter payment to be made against bills to vendors (with work flow based approval) in the system using application interface • Supporting documents to be scanned and sent along with the request • Obtain internal approval submit original copies to the finance section • Account department to access system and verify the bill against the agreed rates/ pre-approved document, supporting documents and mark deductions • In case of discrepancy, notify for correction/clarification with remarks • Otherwise process payment • Send payment details to bank in required format for making payments to vendors accounts • Update payment status to the vendors for the system to automatically update the books of accounts
	Other finance related activities	
	Impacted As-is Activities	*Proposed changes*
	• Finance activities which are manually processed or using stand-alone systems	• Finance application module would deliver fully integrated range of functionalities and also interact with business systems and processes seamlessly. Would cover all financial activities
	HR & Payroll	
	Impacted As-is Activities	*Proposed changes*

	• Employee lifecycle maintained manually through Service Register • Manpower planning: Identify manpower requirement by gathering requirement details from the individual department functional and operational heads • Generation of offer letters for the selected candidates • Statutory compliance requirements being maintained manually (ESIC, PF etc.) • Attendance is tracked through registers • Payroll managed through paybill software	• Employee lifecycle to be maintained in employee master. Tracking of employee history, performance details etc. to be managed online • Respective HOD's to raise manpower requirement through central system • Generation of offer letters for the selected candidates using standard templates/ formats available on central system • All reports to be generated using central system • HR team to use IDMS application interface to process & keep update on licensing, labour related issues, PF & ESIC activities • Attendance to be managed through integration with attendance management system • Payroll application to manage payroll activity
Technology Options Considered	• Customized PC • Mobile device • GIS + GPS	
Benefits	• GIS + GPS technology to be used to create optimum route network • Identify proper order of CC/BMCs falling on the route for inward transporter and identify shortest route from Source to Destination • Defined routes and timing to be accessed by concerned stakeholders • Routes to be reviewed and updated at periodic frequencies • Inward/Outward Transporter time to be recorded during vehicle arrival and departure • Criteria for Fixation of responsibility between Society & inward transporter and for Outward transporter. Responsibilities should be decided and communicated to all concerned stakeholders • Enable real time tracking of tankers using GIS + GPS enabled tools • GPS devices will send current location information of outward tanker to the central server • GPS device would also be integrated with seal monitoring device and send SMS/ information in case there is tampering with seal of the tanker • System driven financial reporting : General Ledger, Trial balance, receipts and charges, balance sheets, P&L, Ledgers, periodic financial statements • System driven processes: ○ Account Receivables (Order to cash cycle) ○ Accounts payables (Procure to pay cycle) ○ Asset accounting ○ Taxation ○ Budgeting ○ Payroll (Hire to Retire cycle) • Integration of various department functions	

- Elimination of redundancies

4.4.1. Assessment of Technology Options

Technology Options	Functional Coverage	Cost Viability	Security	Ease of Maintenance
Customized PC	• Milk procurement • Asset Management • Input services	• High capital cost however covers all functionalities • Additional R&D cost as similar system for the rural areas are not readily available	• Most secure in terms of other options	• High maintenance • High resolution time as services required in rural areas • Dependency on vendor
Mobile device	• Milk procurement • Asset Management • Input services • Operations at field can be performed	• Cost effective among all options	• Prone to theft	• Low maintenance with online support

10.5. At Federation

Overview To-be	•	
Impacted As-is processes	**Milk procurement Module**	
	Impacted As-is Activities	*Proposed changes*
	• Inward transporter reaches Federation Dairy with the Tanker dispatch advice. • DMR is prepared at the respective dairy for the milk received • Weighment is entered manually in the register • Quality team conducts testing of samples and makes entry of the test results • DMR is sent to accounts wing to prepare Milk Bill • JMD office consolidates milk bill from three dairies and prepares payment advice and sends to HO for payment	• Inward Transporter (Milk tanker) arrives at the Federation Dairy • Input IN TIME, details of Inward Transporter , seal no. at the Gate • Send milk tanker to the weigh bridge • The weighment is automatically captured into the system • Milk tanker arrives at the downloading dock • Quality takes sample and perform testing, system updates the quality parameters • Download the milk into the silos • Print Acknowledgement and handover to inward transporter , system sends SMS acknowledgement to BMC/CC/Union Registered Mobile no. • Milk Bill is automatically generated in the system and can be sent for approval via predefined approval matrix
	Engineering Module	
	Impacted As-is Activities	*Proposed changes*
	• Maintenance of assets and breakdown registers are maintained manually	• Master data of all the assets maintained in the system • Notify the breakdown in the system and send alert to the maintenance technician • Details for complaint resolution to be updated in the system
	Inventory Management	
	Impacted As-is Activities	*Proposed changes*
	• Inventory levels of all materials managed manually in the stock register (for milk and all assets and	• Master data to be maintained for all the materials. Stock levels of all materials to be maintained in the

consumables). For milk, the stock is added to the system on flushing the milk from the weigh-bowl to the silo.	system. On receipt of in-coming materials (other materials) and on approval by Quality, GRN is raised and the stock level of the material (based on the material code) is updated in the system. • To be linked with milk procurement module in order to find out the stock levels in the silos and can be visible online. • Safety stock levels can be defined in the system for consumables and assets and when the stock levels fall below the safety stock levels, the system will generate alert to the purchase section for raising a PO.
Transportation Module	
Impacted As-is Activities	*Proposed changes*
• Pre-defined time and distance schedule (route schedule) prepared and given to 3rd party transporter to ply between Federation Dairies and Distribution points	• Transport unit to perform a onetime activity to take coordinates of all the units using a GPS device. In case of addition or deletion of distribution point, system to optimize the route using GPS. • Superimpose all these coordinates / other details on a satellite image and prepare route maps • Procurement department to use new route maps for further correspondences and allocations • Marketing department to review and update at periodic frequencies and hand over to the 3rd party transporter via mail
• Pre-defined time and distance schedule (route schedule/ trip sheet) prepared and given to 3rd party transporter to ply between delivery points as per the identified route. • Fleet management done manually with vehicles allocated to the routes	• Marketing department computes and finalizes distances between delivery points identified on the route by using available GIS maps • Create route sheet in the system • System to have details of all vehicles and their capacities and cold storage capabilities. System to be used for allocating vehicles along the routes for delivery.
• Receive mandatory documents from transporter which are as follows: ○ PAN Card/ Address Proof ○ Bank A/c details	• Receive mandatory documents from transporter which are as follows: ○ PAN Card/ Address Proof

○ Vehicle papers – Registration Certificate, Insurance and Fitness) ○ Stamp Paper of requisite value ○ Security deposit of requisite value as Demand Draft	○ Bank A/c details ○ Vehicle papers – Registration Certificate, Insurance and Fitness) ○ Stamp Paper of requisite value Security deposit of requisite value as Demand Draft • During registration process Install RFID tags on inward/Outward transporter vehicle • Or GPS device on inward/ outward transporter vehicle • Or Track inward/ outward vehicle using mobile phones. Mobile phones to be assigned on per vehicle basis • Or Allot smart tags to inward transporter
Quality Module	
Impacted As-is Activities	*Proposed changes*
• Following test are performed – Temperature Test, Acidity check for natural acidity & developed acidity, Alcohol test, Fat & SNF test by Garber method for Fat and Lactometer for SNF, MBR test and detergent test • Records off all the activities are maintained manually	• All quality test results/ reports of procured milk are captured and updated in the system through online interface • Quality test result of Federation Dairies' equipment and consumables updated in the system through online interface
Finance & Accounts	
Impacted As-is Activities	*Proposed changes*
• Receive DMR from CC/ BMC containing society wise details of payment due for each society • Prepare Milk Bill based on DMR received from CC and milk rates prevailing during the period under consideration • Calculate the payment to be made to society based on milk supplied and deductions, if any. • Send the payment sheet to finance & accounts for payment • Verify the sheet and calculations • Send the payment details to bank for making payments directly to society account • Manually preparing budget and payments details • Costing being managed manually	• System to provide for centralized definition of (master data) fixed asset categories, description, multiple depreciation rates, predefined residual values etc. • Automated system eliminates the task of reconciliation • Access DMR containing society wise details of milk supplied, payment due for each society through system • Transaction history (party-wise receivables and payables) to be visible online. • System generated payment advice can be sent to bank for making payments • Budget preparation and control to be more efficient due to preparing and approving online

		through system. Budget balance to be visible (authorized personnel) online. • Taxation details can be defined in the system and the business logic for the same to be defined in the system enabling the users to generate appropriate invoices through the system. • Costing can be managed using the system
	Payments to vendors	
	Impacted As-is Activities	*Proposed changes*
	• Receive original bill from requesting department with approvals along with supporting documents • Verify the bill against the agreed rates/ pre-approved document, supporting documents and note on bills especially in case of deductions • If there is any discrepancy, send the documents back to requesting department. Otherwise process payment • Send the payment advice to bank for making payments to vendors • Make payment entry in books of accounts • File original bills and supporting documents for further reference with accounts department	• Requesting department enter payment to be made against bills to vendors (with work flow based approval) in the system using application interface • Supporting documents to be scanned and sent along with the request • Obtain internal approval submit original copies to the finance section • Account department to access system and verify the bill against the agreed rates/ pre-approved document, supporting documents and mark deductions • In case of discrepancy, notify for correction/clarification with remarks • Otherwise process payment • Send payment details to bank in required format for making payments to vendors accounts • Update payment status to the vendors for the system to automatically update the books of accounts
	Other finance related activities	
	Impacted As-is Activities	*Proposed changes*
	• Finance activities which are manually processed or using stand-alone systems	• Finance application module would deliver fully integrated range of functionalities and also interact with business systems and processes seamlessly. Would cover all financial activities
	HR & Payroll	
	Impacted As-is Activities	*Proposed changes*

	• Employee lifecycle maintained manually through Service Register • Manpower planning: Identify manpower requirement by gathering requirement details from the individual department functional and operational heads • Generation of offer letters for the selected candidates • Statutory compliance requirements being maintained manually (ESIC, PF etc.) • Attendance is tracked through registers • Payroll managed through paybill software	• Employee lifecycle to be maintained in employee master. Tracking of employee history, performance details etc. to be managed online • Respective HOD's to raise manpower requirement through central system • Generation of offer letters for the selected candidates using standard templates/ formats available on central system • All reports to be generated using central system • HR team to use IDMS application interface to process & keep update on licensing, labour related issues, PF & ESIC activities • Attendance to be managed through integration with attendance management system • Payroll application to manage payroll activity
	Marketing Module	
	Impacted As-is Activities	*Proposed changes*
	• Based on the indents received through card sales (online and at offline), marketing informs the production target to the Production team • On receipt of the milk/ product, CD 15 document is prepared to acknowledge receipt of milk from the Production. • Milk is loaded in tubs from the dock and based on the communication received from control room • In case of products, the indent details are collected by zonal office over phone from the parlours and agents and loaded into the vehicle accordingly. Lack of visibility on the sales and stock details in the parlours • Monthly sales statement (products) is prepared at Marketing Office from the channels (FRO's based on the information from the Product Control Room) and manually entering the sales data received from the parlours.	• Consolidated indent report can be generated in the system and marketing and production can prepare Sales & Operations Plan • Control room will receive indents for approval of the same based on availability at the dairy • Stock levels of finished products visible online hence dispatch plan can be made efficiently • Based on the quantity of milk to be loaded into the individual transporter vehicle, system calculates the number of tubs to be loaded and person at the dock loads accordingly. Gate pass is issued and vehicle is checked at the gate and the security personnel clears the vehicle for exit • Stock levels of the products in the parlours visible online and intelligent reports can be generated about the trends and pattern of sales in the parlours and the movement of stocks • Parlours/FROs to have sales

	• Monthly abstracts are prepared and accounted for sales tax and VAT. A monthly bound book is prepared and kept for statutory audit purposes. • Monthly channel-wise, product-wise sales statement is prepared at Marketing Office • Monthly purchase statement (for Union products) is prepared and furnished to Head Office for payment. • Parlours can also transfer goods to other parlours • Currently billing system is deployed at few parlours and CB, OB and stock details maintained manually	module to record the sale of products (*per entry/ close of day*) • Parlours/FROs to acknowledge the receipt of goods supplied from the product dairy which enables to manage inventory of products • Marketing office will have access to the sales accounting module of all parlours and reports can be generated as per rights and privileges defined in the system E.g. (daily/monthly) sales outstanding, stock in hand • Stock transfer entries to be recorded in the system by both parties involved (parlor-parlor transfer, Product dairy to parlor) • Parlours/FROs can generate reports on sale/purchase of products, amount payables, SKU wise inventory details at the store
	Planning Module	
	Impacted As-is Activities	*Proposed changes*
	• Prepare a Milk Movement Plan by coordinating with the milk unions to know the procurement trends, local sales and understand the routing of the milk to the metro dairies based on their capacities. Also understand the details of the storage capacity and the stock levels of butter and SMP and accordingly plan for conversion/ re-constitution	• Details of the procurement trends, production capacities available in the system in the form of reports • Calculation of allocation of surplus milk for conversion based on the production capacities and stock levels of butter and SMP at the FBD's available in the system
Technology Options Considered	• Customized PC • Mobile device • GIS + GPS	
Benefits	• GIS + GPS technology to be used to create optimum route network • Identify proper order of CC/BMCs falling on the route for inward transporter and identify shortest route from Source to Destination • Defined routes and timing to be accessed by concerned stakeholders • Routes to be reviewed and updated at periodic frequencies • Inward/Outward Transporter time to be recorded during vehicle arrival and departure • Criteria for Fixation of responsibility between Society & inward transporter and for Outward transporter. Responsibilities should be decided and communicated to all concerned stakeholders • Enable real time tracking of tankers using GIS + GPS enabled tools • GPS devices will send current location information of outward tanker to the central server	

- GPS device would also be integrated with seal monitoring device and send SMS/ information in case there is tampering with seal of the tanker
- System driven financial reporting : General Ledger, Trial balance, balance sheets, P&L, Ledgers, Quarterly financial statements
- System driven processes:
  - Account Receivables (Order to cash cycle)
  - Accounts payables (Procure to pay cycle)
  - Asset accounting
  - Taxation
  - Budgeting
  - Payroll (Hire to Retire cycle)
- Integration of various department functions
- Elimination of redundancies

4.5.1. Assessment of Technology Options

Technology Options	Functional Coverage	Cost Viability	Security	Ease of Maintenance
Customized PC	• Milk procurement • Asset Management • Input services	• High capital cost however covers all functionalities • Additional R&D cost as similar system for the rural areas are not readily available	• Most secure in terms of other options	• High maintenance • High resolution time as services reqd in rural areas • Dependency on vendor
Mobile device	• Milk procurement • Asset Management • Input services • Operations at field can be performed	• Cost effective among all options	• Prone to theft	• Low maintenance with online support

11. Strategy for Implementation of IDMS

IT Strategy and implementation roadmap is a major milestone for any IT transformation initiative. IT includes complete IT recommendations and their implementation roadmap in terms of underlying infrastructure and the applications involved.
Approach adopted by PwC to implement IDMS as follows:

1. IT application and hardware initiatives in line with to-be process recommendations and Functional Requirement Specification
2. IT Infrastructure requirement based on IT application initiatives and overall IT vision of TCMPF
3. Design IT Organization Structure to support the complete envisaged IT landscape

Primary decision area from IT Strategy perspective is system implementation and roll-out approach across locations. We have recommended **establishing a common IT Managed Service Centre for managing Enterprise IT requirements of aavin**. Within the TCMPF, a lean IT organization structure is designed. Service desk would be managed centrally with onsite engineers assigned to specific locations.

Data Centre and Disaster Recovery is recommended to be on buy model with the same being housed in the State Data Center.

The network connectivity is designed taking into consideration the prominence of rural domain in core operations of aavin as well as requirement of data transfer in real time or 'near' real time basis. We have proposed MPLS and leased lines for connectivity at HO/ Union/CC/ BMC, whereas societies are proposed to be connected using GPRS technology and backed up with GSM technology.

Further, in this document we have also provided details of each application and technology options, detail architecture for designing these applications, infrastructure BOM, project roll-out plan and the areas of training and change management.

11.1. Infrastructure Deployment

11.1.1. Infrastructure requirements

The table below represents the existing and the gap infrastructure requirement at Aavin.

Federation Units	Desktop PC/ Laptop		Printer			UPS		
						Required		
	Existing	Required	Existing	Required - Heavy duty printer	Required - Laser	5 kVA	3 kVA	600 VA
Head Office, Madhavaram	51	42	29	8	2	2	0	1
Transport Unit, Madhavaram	5	6	3	1	2	0	2	4
Central Dairy, Madhavaram	9	27	11	4	11	3	3	9
JMD Office, Ambattur	11	28	0	3	0	2	0	6
Ambattur Milk Dairy	5	35	0	4	10	1	3	13
Ambattur Products Dairy	4	16	0	4	2	0	3	3
Marketing Unit, Nandanam	48	44	0	6	9	3	0	4
Milk Dairy, Sholinganallur	9	29	8	6	8	1	5	6
Zonal Offices	16	36	0	16	0	0	16	0
Thiruvannamalai Powder Plant	5	7	3	1	4	0	1	4
Grand Total	**158**	**263**	**51**	**52**	**44**	**12**	**32**	**46**

11.1.2. Data Centre and Disaster Recovery Site

Taking into consideration the economic viability and current data centre models availability, it becomes imperative to analyze and select the best suited model as per the business requirements. In lieu of the same, it is envisaged that the servers required for Data Center for hosting IDMS applications would be purchased and housed at the State Data Center (SDC) for and the servers for the Disaster Recovery (DR) site would be housed at the DR site as planned and negotiated with the SDC. Managing the servers would be the responsibility of Aavin.

11.1.3. Network Design

The setting up the Network connectivity is the important key element for the implementation of IDMS project. The offices/locations that are to be covered are distributed in multiple Districts in the State. The nature of the offices/locations is complexes, having multiple buildings, to cater to the various functions/activities related to diary production/ administrative functions related to federation/Unions.

The network connectivity is to be given to the offices/locations so that the access to IDMS application is enabled with suitable type of connectivity with required bandwidth to connect the State Data Centre, which will house the IDMS servers/application.

The following locations are taken up for the assessment of the network requirement:

1. Madhavaram Head office (Complex)
2. Madhavaram milk diary (Complex)
3. Ambattur milk diary & Product Diary (Complex)
4. Sholinganallur milk diary (Complex)
5. Thiruvannamalai milk diary (Complex)
6. Nandanam Marketing/Product wing (Complex)
7. Zonal offices – 16
8. Parlours – 30
9. Salem Union Diary (Complex)
10. Salem - Namakkal CC
11. Salem – Athur CC
12. Salem - Paramathivalur CC
13. Salem – BMC – 42
14. Erode Union Diary (Complex)
15. Erode – Sankaradampalayam CC
16. Erode – Satyamangalam CC
17. Erode - BMC – 17
18. Maduari union diary (Complex)
19. Madurai – Theni CC
20. Madurai – BMC- 14
21. Krishnagiri union diary (Complex)
22. Krishnagiri - Dharmapuri CC
23. Krishnagiri – Thenkanikottai CC
24. Krishnagiri – BMC- 15

Proposed connectivity for the complexes

The connectivity requirement for the complexes has been assessed and it is observed that the maximum number of floors in buildings is only 2. The typical number of computers/printers/MFPs that will be required in each building is also taken as reference to design the network. The type of network connectivity with in the building will be LAN (Local Area Network) and inter building will be CAN (Campus Area Network. It is proposed to identify one building as a central point of connectivity, which will be connected with all the other buildings through a suitable media to have a reliable connectivity, long term sustainability and capable of handling the future scalability in the network.

The central point to be connected to SDC and it is proposed to establish the horizontal connectivity with TNSWAN through leased lines and hence each complex will get connected to SDC through TNSWAN. All the users of IDMS in the complex can access the IDMS servers/application at SDC though the secured TNSWAN connectivity. As a value added service, internet access will be made available to all. The internet is also a secured/restricted one as per the TNSWAN internet usage policy and hence the misuse of internet will not be possible. Apart from internet, voice & video services also possible through TNSWAN, provided the required end equipment is installed by the department.

The bandwidth for the horizontal connectivity is proposed based on the number of nodes in the complex. The redundant connectivity for the leased line can be planned as VPNoBB.

The scope of the network connectivity will be provisioning of core switch at the central point & access switch/media converter in the other buildings and passive cabling/accessories for LAN & CAN to intra building & inter building connectivity respectively. The passive cabling will be using copper with in the building and using fibre for inter - building.

4.5.1.1. Proposed connectivity for Zonal offices & CC

The number of computers is taken as four (maximum) in the zonal offices and two in the CC. Hence, it is proposed to connect the zonal offices & CC using the broadband connectivity and the connectivity will be a

secured one, if the broadband is given with a static IP. Redundant connectivity can ne planned through a data card.
The scope of network connectivity will be passive cabling for LAN and access switch.

4.5.1.2. Proposed connectivity for Parlours & BMC

Since, only one computer will be available in the parlour & BMC, it is proposed to have the connectivity through data card.
The details consolidated in a template to assess the network requirement are consolidated location wise and it is given at Annexure 1.
The template provides the details of the networking hardware, type of connectivity and the bandwidth requirement of the connectivity.

11.1.3.1. Networking – Federation Units

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN nodes			CAN nodes	WAN nodes	Broadband	Datacard	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware	Leased Line
						Existing	New	Proposed									
Madhavaram	Head Office	1	Complex	1	3	51	38	102	0	1	0	0	24 port switch manageable - L2 48 port switch manageable - L2 - 2 Nos .	Network Rack with all accessories - 15 U LAN cabling for all the LAN nodes	Nil	One Router for 8 Mbps ethernet point to point connectivity .	8 Mbps to Network Operating Centre of TNSWAN
	TOTAL	**1**		**1**		**51**	**38**	**102**	**0**	**1**	**0**	**0**					
	Central Dairy	1	Complex	1	2	9	23	37	Central point	1	0	0	24 port switch Manageable - L2 (core switch for the complex) with 8 fiber port to connect the other buildings	Network Rack with all accessories - 12 U LAN cabling for all the LAN nodes	Central point	One Router for 4 Mbps leased line connectivity and 2 Mbps leased line modems - 4 Nos.	4 Mbps to Network Operating Centre of TNSWAN
	General Stores			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Central Dairy			1	1				1	0	0	0	24 port access	Network Rack with	1	Nil	Nil

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN nodes			CAN nodes	WAN nodes	Broadband	Datacard	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware	Leased Line
						Existing	New	Proposed									
	Weigh Bridge - 1												switch - L2	all accessories - 9 U LAN cabling for all the LAN nodes			
	Security			1	1				1	0	0	0			1	Nil	Nil
	Transport Unit			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Transport Movement Office			1	1	5	6	13	1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	TOTAL	**1**		**6**		**14**	**29**	**49**	**5**	**1**	**0**	**0**					
Ambattur	JMD Office	1	Complex	1	3	11	26	43	Central point	1	0	0	24 port switch Manageable - L2 (core switch for the complex) with 8 fiber port to connect the other buildings	Network Rack with all accessories - 15 U LAN cabling for all the LAN nodes	Central point	One Router for 8 Mbps leased line connectivity	8 Mbps to Netowrk Operating Centre of TNSWAN

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN nodes			CAN nodes	WAN nodes	Broadband	Datacard	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware	Leased Line
						Existing	New	Proposed									
													48 port swich manageable -L2				
	Milk Dairy			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	General Stores			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Milk Dairy Weigh Bridge - 1 (Loading Dock)			1	1	5	37	48	1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Security (incl. weigh bridge - 2)			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the	1	Nil	Nil

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN nodes			CAN nodes	WAN nodes	Broadband	Datacard	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware	Leased Line
						Existing	New	Proposed						LAN nodes			
	Transport section			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Product Dairy			1	2				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Mini stores & SMP godown			1	1	4	20	28	1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Product Dairy Control Room			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN nodes			CAN nodes	WAN nodes	Broadband	Datacard	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware	Leased Line
						Existing	New	Proposed									
	TOTAL	**1**		**9**		**20**	**83**	**118**	**8**	**1**	**0**	**0**					
Sholinganallur	Admin Block	1	Complex	1	2	9	26	40	Central point	1	0	0	24 port manageable switch L2 (Core switch of the complex) with 8 fibre ports to connect other buildings	Network Rack with all accessories - 12 U LAN cabling for all the LAN nodes	Central point	One Router for 4 Mbps leased line connectivity and 2 Mbps leased line modems - 4 Nos.	4 Mbps to Network Operating Centre of TNSWAN
	Milk Dairy			1	2				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Engineering Block			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Stores			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN	1	Nil	Nil

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN nodes			CAN nodes	WAN nodes	Broadband	Datacard	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware	Leased Line
						Existing	New	Proposed									
														nodes			
	Transport			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Weigh Bridge - 1			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Security			1	1				1	0	0	0	24 port access switch - L2			Nil	Nil
	TOTAL	**1**		**7**		**9**	**26**	**40**	**6**	**1**	**0**	**0**					
Tiruvannamalai	Admin Block	1	Complex	1	2				Central point	1	0	0	24 port manageable switch L2 (Core switch of the complex) with 4 fibre ports to connect other buildings	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Central point	One Router for 2 Mbps leased line connectivity and 2 Mbps leased line modems - 2 Nos.	2Mbps to District Collectorate . TNSWAN PoP
	Milk Dairy			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the	1	Nil	Nil

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN nodes			CAN nodes	WAN nodes	Broadband	Datacard	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware	Leased Line
						Existing	New	Proposed						LAN nodes			
	Security			1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	Weigh Bridge - 1			1	1				1	0	0	0	24 port access switch - L2			Nil	Nil
	TOTAL	**1**		**4**		**0**	**0**	**0**	**3**	**1**	**0**	**0**					
Nandanam	Marketing Unit	1	Complex	1	1	48	42	104	Central point	1	0	0	24 port manageable switch L2 (Core switch of the complex) with 4 fibre ports to connect other buildings	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Central point	One Router for 8 Mbps leased line connectivity.	8 Mbps to Netowrk Operating Centre of TNSWAN
	Products wing	1		1	1				1	0	0	0	24 port access switch - L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil	Nil
	TOTAL	**2**		**2**		**48**	**42**	**104**	**1**	**1**	**0**	**0**					
Individual location	Zonal Offices	16	Individual location	16	1	16	36	60	0	0	1	1	8 port access switch	Network Rack with all accessories - 9 U LAN	Nil	Nil	Nil

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN nodes			CAN nodes	WAN nodes	Broadband	Datacard	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware	Leased Line
						Existing	New	Proposed									
														cabling for all the LAN nodes			
	TOTAL	**16**		**16**		**16**	**36**	**60**	**0**	**0**	**1**	**1**					
Individual location	Parlours	30	Individual location	30	1	0	30	30	0	0	0	1	Nil	Nil	Nil	Nil	Nil
	TOTAL	**30**		**30**		**0**	**30**	**30**	**0**	**0**	**0**	**1**					
NOTE: 24 port switches is shown as access switch. It can be either 16 port/8 port based on the number of nodes in each building/specific location																	

11.1.3.2. Networking – District Unions

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN	CAN	WAN	Broadband	Data Card	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware
Salem	Union Dairy	1	Complex	1	1	40	1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Union Office			1	2		Central point	1	0	0	24 port manageable switch -L2 with 8 fibre ports to connect other buildings	Network Rack with all accessories - 12 U LAN cabling for all the LAN nodes	Nil	One Router for 4 Mbps leased line connectivity and 2 Mbps leased line modems - 4 Nos.
	Marketing Section			1	2		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	APS Dock			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Milk Packing Dock			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Weigh Bridge - 1			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Security			1	1					0	24 port access switch- L2			Nil
	Transport			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Namakkal CC	1	Individual location	1	1		0	0	1	0	8 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN	CAN	WAN	Broadband	Data Card	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware
	Athur CC	1	Individual location	1	1		0	0	1	0	8 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Paramathivelur CC	1	Individual location	1	1		0	0	1	0	8 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Bulk Milk Coolers (BMC)	42	Individual location	1	1		0	0	0	1	Nil	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Societies									0				
	TOTAL	**46**		**12**		**40**	**6**	**1**	**3**	0	**0**			
Erode	Union Dairy	1	Complex	1	2	40	1	0	0	0	24 port manageable switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Union Office			1	2		Central point	1	0	0	24 port manageable switch -L2 with 8 fibre ports to connect other buildings	Network Rack with all accessories - 12 U LAN cabling for all the LAN nodes	Nil	One Router for 4 Mbps leased line connectivity and 2 Mbps leased line modems - 4 Nos.
	Procurement & Input			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Security - 1			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Security - 2			1	1					0	24 port access switch- L2			
	Weigh Bridge - 1			1	1					0	24 port access switch- L2			
	Transport			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil

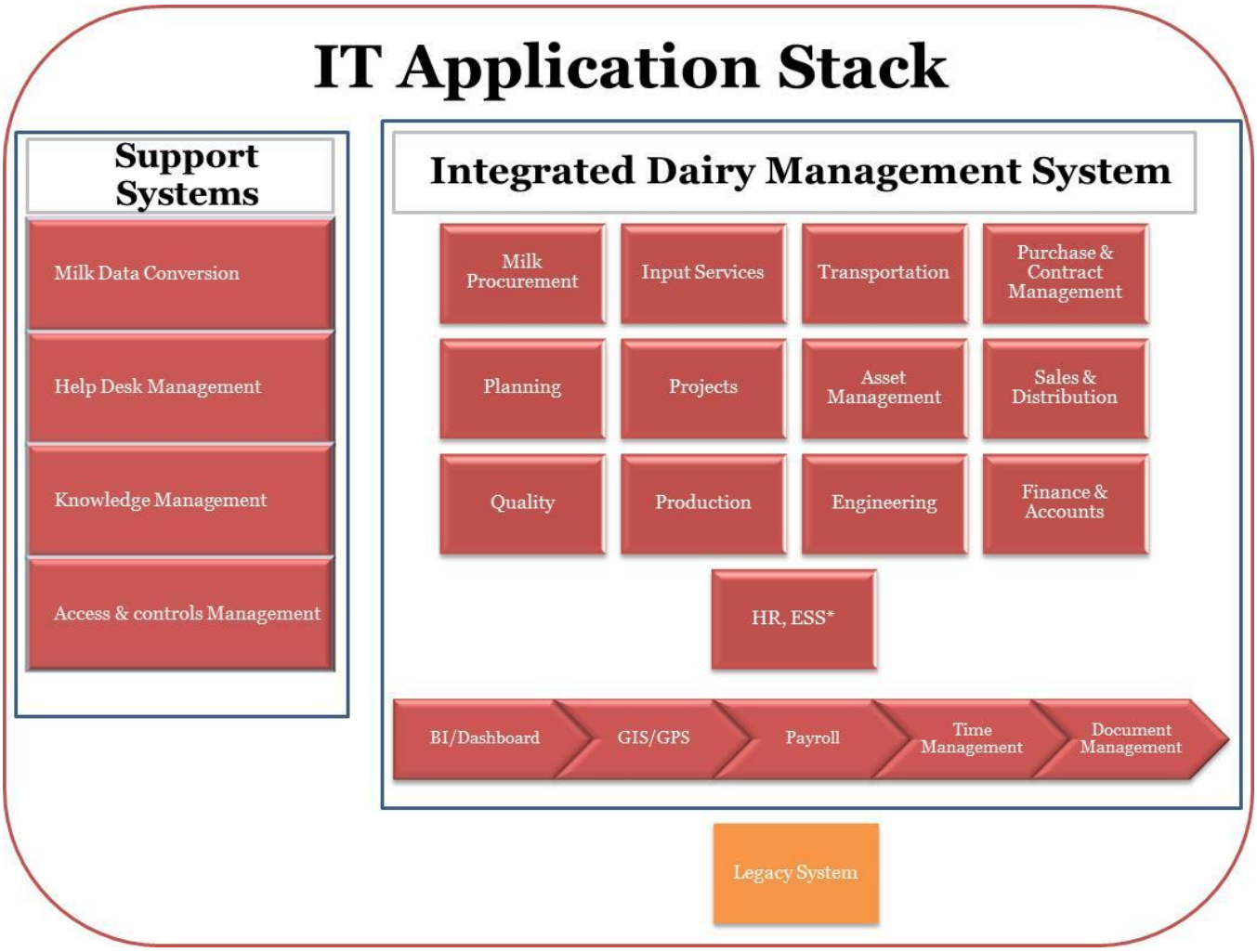
Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN	CAN	WAN	Broadband	Data Card	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware
	Sankarandampalayam CC	1	Individual location	1	1		0	0	1	0	8 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Sathyamangalam CC	1	Individual location	1	1		0	0	1	0	8 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Bulk Milk Coolers (BMC)	17	Individual location	1	1		0	0	0	1	Nil	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Societies									0				
	TOTAL	**20**		**10**		**40**	**4**	**1**	**2**	0	**0**			
Madurai	Union Dairy	1	Complex	1	2	40	1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Union Office			1	2		Central point	1	0	0	24 port manageable switch -L2 with 8 fibre ports to connect other buildings	Network Rack with all accessories - 12 U LAN cabling for all the LAN nodes	Nil	One Router for 4 Mbps leased line connectivity and 2 Mbps leased line modems - 4 Nos.
	Transport			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	AI Centre			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Stores			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Weigh Bridge - 1			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U	1	Nil

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN	CAN	WAN	Broadband	Data Card	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware
	Security			1	1					0	24 port access switch- L2	LAN cabling for all the LAN nodes		
	Theni CC	1	Individual location	1	1		0	0	1	0	8 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Bulk Milk Coolers (BMC)	14	Individual location	1	1		0	0	0	1	Nil	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Societies									0				
	TOTAL	**16**		**9**		**40**	**5**	**1**	**1**	0	**0**			
Krishnagiri	Union Dairy	1	Complex	1	1	40	1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Union Office			1	2		Central point	1	0	0	24 port manageable switch -L2 with 8 fibre ports to connect other buildings	Network Rack with all accessories - 12 U LAN cabling for all the LAN nodes	Nil	One Router for 4 Mbps leased line connectivity and 2 Mbps leased line modems - 4 Nos.
	Marketing Section			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	General Stores			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Cattle feed godown			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Weigh Bridge - 1			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Security			1	1					0	24 port access switch- L2			

Geo Location	Particulars	No. of Locations	Nature of Location	No. of Buildings	No. of floors	LAN	CAN	WAN	Broadband	Data Card	LAN Hardware	LAN Cabling	CAN - Building to building fibre cabling	WAN hardware
	Transport			1	1		1	0	0	0	24 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	1	Nil
	Dharmapuri CC	1	Individual location	1	1		0	0	1	0	8 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Thenkanikottai CC	1	Individual location	1	1		0	0	1	0	8 port access switch- L2	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Bulk Milk Coolers (BMC)	15	Individual location	1	1		0	0	0	1	Nil	Network Rack with all accessories - 9 U LAN cabling for all the LAN nodes	Nil	Nil
	Societies									0				
	TOTAL	**18**		**11**		**40**	**6**	**1**	**2**	0	**0**			
24 port switch is shown as access switch. It can be either 16 port/8 port based on the number of nodes in each building/specific location														

11.2. IT Application Stack

It is of prime importance for TCMPF to have an integrated software application to automate its end to end operations. The envisaged Integrated Dairy Management System (IDMS) will have different functional modules, catering to the business requirements and functions as captured in the To-be design and the modules are depicted below. Along with the core modules of the integrated software IDMS there will be multiple other supporting modules /sub-systems as shown below. The details of the functionality of the each of these sub-systems and modules are described in the Functional Requirement Specification (FRS) document.



It is to be noted that the integrated system IDMS can either be a custom-built solution or built on a standard ERP package (open standard) or can be built as a mix of packages (commercial off the self) for the standard modules and custom bolt-on application for non-standard specialised requirements of TCMPF business.

11.3. Application Details

The following section includes details of all the recommended applications. It also includes whether the specific application should be custom built or bought from the market and customized.

11.3.1. Integrated Dairy Management System (IDMS)

IDMS consists of the modules that will be implemented to cover the core business processes of the TCMPF. Detailed modules under the IDMS category are:

4.5.1.3.

4.5.1.4. Milk Procurement

Milk Procurement				
Functionalities relevant to Aavin and typically available	Milk Procurement will enable automation of milk reception by integrating all of its related activities through a centralised system. It will provide features to capture the detail of the milk collected, testing, transportation etc. The other features include recording financial information for producers, input services, recoveries and payments. Concerned departments will access the milk procurement data by integrating the respective modules with milk procurement module.			
Integration				
Interface Requirements	**Integrating Application / Modules**	**Mode**	**Key Data To be Exchanged**	**Data Flow**
	Transportation, Purchase, Quality, Input Services, Finance & Accounts	Batch, Online - Offline	Shift wise Milk Collection Data including milk price update, inward transportation data and quality check data at CC/BMC/Union Dairy	Bi-directional
	Farmer management (throughout his lifecycle)	Offline	Member /pourer details	Bi-directional
	Unified User & Access Management	Online	User authentication details	Bi-directional
Technical Details				
Compatible applications / platforms	• Web based platform • Windows based			
Infrastructure Requirements	Possible architecture may include Web server, application server, integration server, Database server.			

4.5.1.5. Transportation, Purchase & Contract Management, Asset Management, Marketing, Quality, Production, Finance & Accounts, HR & ESS and Engineering

Transportation, Purchase & Contract Management, Asset Management, Marketing, Quality, Production, Finance & Accounts, HR & ESS and Engineering	These modules can be customised and tailored as per the business needs of the TCMPF. At a high level it is desired that all key data component including member's data and daily milk procurement transaction will be designed within the IDMS system itself and pourer payments will be processed.			
Integration				
Interface Requirements	**Integrating Application / Modules**	**Mode**	**Key Data To be Exchanged**	**Data Flow**
	Milk Procurement	Online-Offline	Shift Wise Milk procurement details	Bi-directional
	BI/ Management Dashboard System	Online	Enterprise wise data for reporting and analyses	Bi-directional
	GIS-GPS Application	Online	Transportation details	Uni –directional (From GIS-GPS Application)
	Employee Time Management (ETM) Application	Online	Employee Time management details	Uni - directional(From ETM Application
Technical Details				
Compatible applications / platforms	• Web based platform • Windows based			
Infrastructure Requirements	These applications follow client-server based architecture. There are three areas of responsibility that is distributed among the servers and the clients. First, there is the database component – the central repository for all of the data that is transferred to and from the clients. Then, of course, the clients – here raw data gets inputted, requests for information are submitted, and the data satisfying these requests is presented. Lastly, we have the application component that acts as the intermediary between the client and the database. • Client could be browser based or there could be a client application installed on user's machine. • Technology requirements may differ across products.			

4.5.1.6. GIS/ GPS Application

<table>
<tr><th colspan="5">GIS/GPS Application</th></tr>
<tr><td>Functionalities</td><td colspan="4">GPS application will enable to track the vehicles' (milk vans, tankers, vehicles for transporting products etc.) location. The vehicle information can be viewed on electronic maps via the Internet or specialized software. . Besides GPS, GIS application will be used for route mapping and planning by identifying the optimised route for the vehicles.
This can be a Commercial off-the-shelf application as many tested solution are already present.</td></tr>
<tr><th colspan="5">Integration</th></tr>
<tr><td rowspan="2">Interface Requirements</td><td>Integrating Application / Modules</td><td>Mode</td><td>Key Data To be Exchanged</td><td>Data Flow</td></tr>
<tr><td>Transportation Module</td><td>Online</td><td>Transporter Tracking & Route Optimization data: IDMS will integrate with the GIS/GPS application to capture and process real time tracking data of vehicles for fixation of responsibility during collection and dispatch</td><td>Uni-directional</td></tr>
<tr><th colspan="5">Technical Details</th></tr>
<tr><td>Compatible applications / platforms</td><td colspan="4">Web Based Platform</td></tr>
<tr><td>Infrastructure Requirements</td><td colspan="4">• Procurement of GIS maps and GPS devices
• Procurement of GIS maps for outward routes and GPS devices
• Cloud computing infrastructure & SaaS could also be considered for low cost working. Cloud computing infrastructure is a web service interface to operating system virtualization. Software-as-a-Service (SaaS) is an on-demand or hosted applications which has fixed financial and operative advantages over the on-premise software models.</td></tr>
</table>

4.5.1.7. Document Management System

Document management system				
Functionalities	Document management system would be implemented for filing, retrieval and version management of documents along with tracking and distribution. This will be a Commercial off-the-shelf module as many tested solution are already present.			
Integration				
Interface Requirements	**Integrating Application / Modules**	**Mode**	**Key Data To be Exchanged**	**Data Flow**
	IDMS modules	Online	Document Lifecycle information	Bi- directional
Technical Details				
Compatible applications / platforms	NA			
Infrastructure Requirements	NA			

4.5.1.8. Business Intelligence /Dashboard

Business Intelligence / Dashboard				
Functionalities	Business Intelligence module and Management Dashboard will provide a higher degree of management reporting through extraction of data from various systems into a common platform. The degree and flexibility of information provided by this application allows for more focused, informed and agile decision making			
Integration				
Interface Requirements	**Integrating Application / Modules**	**Mode**	**Key Data To be Exchanged**	**Data Flow**
	IDMS Modules	Online	Data required for BI and Reporting	Bi- directional
Technical Details				
Compatible applications / platforms	NA			
Infrastructure Requirements	NA			

11.3.2. *Support Systems*

4.5.1.9. Milk Data Conversion Standard Modules

Milk Data Conversion Standard Modules	
Functionalities relevant to societies and typically available	Milk Data Conversion Standard Modules will facilitate TCMPF to communicate and capture milk collection data from the equipment of different make. The captured data will be transmitted to the central database to be accessed by the milk procurement system.
Integration	
Interface Requirements	**NA**
Technical Details	
Compatible applications / platforms	NA
Infrastructure Requirements	• GSM enabled desktop/ laptop/ mobile device

4.5.1.10. IT Help Desk Module

IT Help Desk Module				
Functionalities	The purpose of IT Help Desk Module is to troubleshoot problems and provide guidance to the end users: customers as well as employees. It helps in managing the requests by enabling several automated features like Service Level Agreement, Self Service portal etc. This module will be Commercial off-the-shelf and can be outsourced as well.			
Integration				
Interface Requirements	**Integrating Application / Modules**	**Mode**	**Key Data To be Exchanged**	**Data Flow**
	IDMS module	Online	Complaint Lifecycle Management	Bi-directional
Technical Details				
Compatible applications / platforms	• Red Hat Enterprise Linux (RHEL) • SUSE Linux Enterprise Server (SLES) • UNIX derivates like OpenBSD or FreeBSD • Microsoft Windows • Mac OSX			
Infrastructure Requirements	• Application Database • Webserver			

4.5.1.11. Portal and Knowledge Management Module

Portal and Knowledge Management Module	
Functionalities	Some of the functionalities that would be served by Portal and Knowledge Management Module: • Login facility for external and internal stakeholders • Record deviations, suggestions, comments, feedback • Allow information to flow from database server to web-interface for sales orders to be executed • Allow the employees to document and access the information / knowledge within the organization • Allow dealing manager to check for status of execution orders • Fetch information from database server • Receive information and log information The detail functionality of this application is mentioned in section 17 of FRS document.
Technical Details	
Compatible applications / platforms	.Net, J2EE framework
Infrastructure Requirements	The web-interface will be hosted on a web server. This web-server will be connected to the Database server.

4.5.1.12. Email and Communication Management Module

<table>
<tr><th colspan="5">Communication Management Module</th></tr>
<tr><td>Functionalities</td><td colspan="4">Communication Management module will facilitate web based access to information for stakeholder across the organisation and to various stakeholders and disseminating information via Electronic mail.
This will be a cloud based application as many tested solution are already present.</td></tr>
<tr><th colspan="5">Integration</th></tr>
<tr><td rowspan="2">Interface Requirements</td><td>Integrating Application / Modules</td><td>Mode</td><td>Key Data To be Exchanged</td><td>Data Flow</td></tr>
<tr><td>IDMS module</td><td>Online</td><td>Emails, IMs</td><td>Bi-Directional</td></tr>
<tr><th colspan="5">Technical Details</th></tr>
<tr><td>Compatible applications / platforms</td><td colspan="4">• Zimbra, Google Apps
Operating System - Linux, Mac OS X, Windows
Browser: Stable release of Firefox, Safari and Google Chrome
• Microsoft Outlook
Operating System - Microsoft Windows
• Lotus Notes
Operating System - Linux, Mac OS, Mac OS X, Windows</td></tr>
<tr><td>Infrastructure Requirements</td><td colspan="4">• Microsoft Outlook
○ Processor - 500(MHz) processor or higher
○ Memory - 512 megabyte (MB) RAM or higher
○ Drive - CD-ROM or DVD Drive
○ Display - 1024x768 or higher resolution monitor

• Lotus Notes
○ Processor - 1.2(GHz) processor or higher
○ Memory - 512 megabyte (MB) RAM or higher
○ Disk Space - Install directory (C:\) - 900 MB
• Display - Colour Monitor</td></tr>
</table>

4.5.1.13. Unified User & Access Management system

Unified User & Access Management system	
Functionalities	Single Sign On: Provides a secure, single point of entry to computing resources that enables organizations to connect disparate networked systems. This results in significant benefits, such as: Increased security, Supports password, fingerprint, or smartcard authentication to confirm authorized users. Easier administration, Simplifies setting up and managing passwords and IDs for users. Increased productivity, Reduces the time required to complete logons, and simplifies system and user management. LDAP: LDAP is the Lightweight Directory Access Protocol. LDAP provides a remote and local data access method that is standardized. It is a protocol used to access data from a database (or other source) and is a means to query data in the database.
Technical Details	
Compatible applications / platforms	• Windows 2000, 2003, XP, Vista, 7 • Mac OS X on PowerPC and Intel • Linux
Infrastructure Requirements	**Server** ○ Microsoft ADAM, Terminal Server, or Advanced Server with Active Directory ○ Microsoft Windows 2003 Server or Terminal Server with Active Directory ○ Servers running LDAP-compliant directories **Browser** ○ Internet Explorer 6.0 and 6.5 ○ Netscape 4.7.x or later ○ Mozilla FireFox 1.5 or later **Strong-Authentication Methods** ○ Smart cards ○ Tokens ○ Biometrics ○ Proximity badges ○ Directory/domain authentication

11.4. IT Infrastructure Design

11.4.1. Data Centre and DR Design

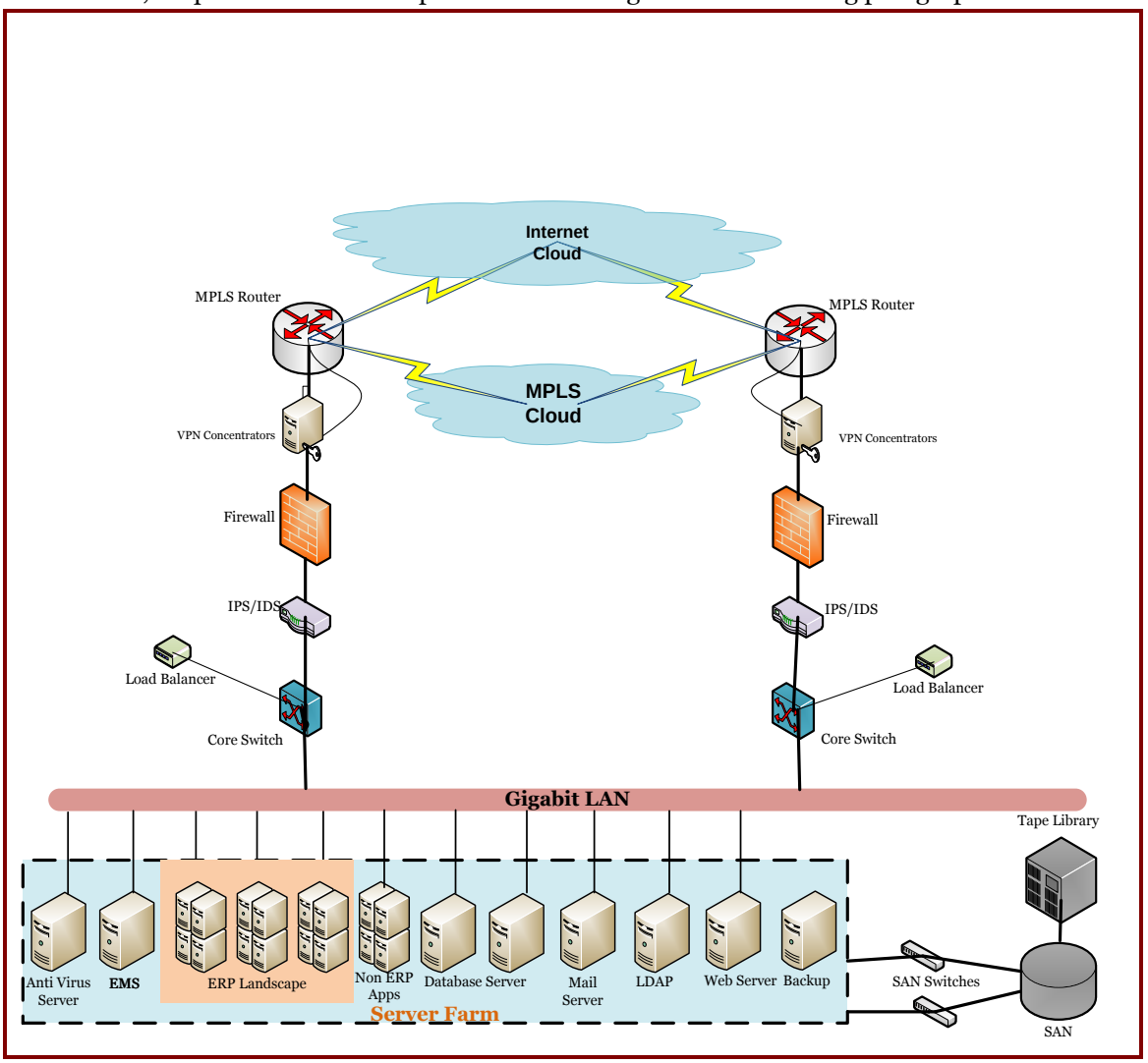
4.5.1.14. Data Centre Design

Servers housed in the SDC would act as the Data Center for Aavin. This data centre is to provide all the IT services to all the TCMPF units which will be integrated. As part of the Business Continuity Plan a Disaster Recovery centre will also need to be setup as detailed in further section. The Primary DC & DRC is to be connected asynchronously through the WAN.

4.5.1.15.

4.5.1.16. Primary Data Centre (DC)

Primary data centre may be located in TCMPF Head Office location or any other suggested location. All the equipment inside the data centre will be in redundant mode to avoid single point of failure. Required modules of the IDMS will be developed and deployed at Primary DC. All the users across the locations will access this data securely and store the database in main storage area at Primary DC. Details of indicative network architecture, required items and specifications are given in succeeding paragraphs.



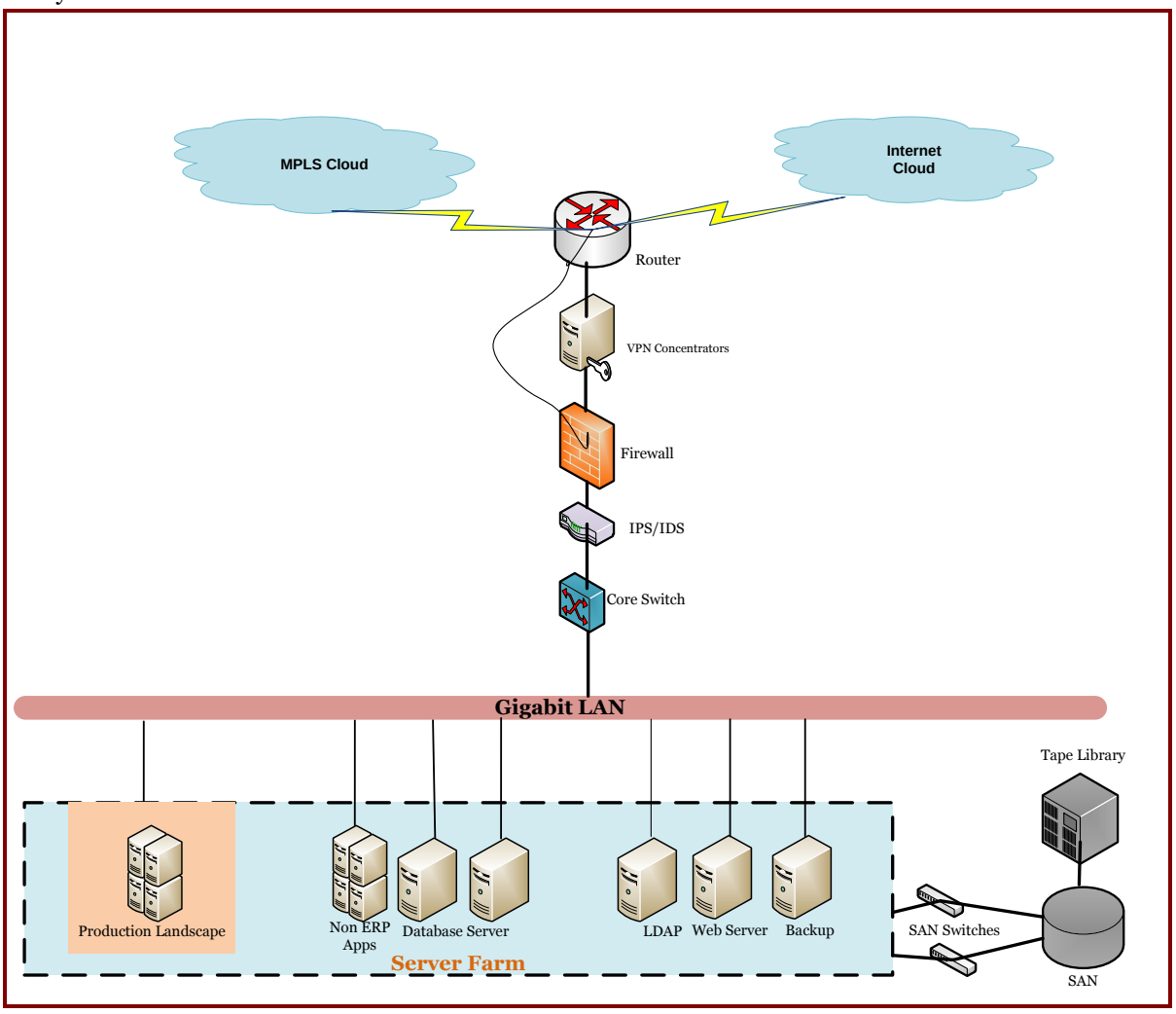
Data Centre Design Description

- DC will have 2 type of connectivity –
  - One for MPLS which will integrate with DC (HO, CCs/BMCs)

- Second for Internet connectivity that will be required to login from public network. TCMPF employees can connect to data centre through MPLS or Internet
- A dedicated Leased Line will provide backup link between TCMPF and Primary data centre. At DC all equipment are in redundant mode to avoid single point of failure.
- At DC both link will terminate on the router. Router will route MPLS traffic to Firewall and Internet traffic to Firewall through VPN equipment.
- VPN will check and authenticate users request to get access inside data centre.
- Firewall will analyze inbound and outbound traffic based predetermined set of rules and policies.
- IPS/IDS will monitor malicious activity and block the same as required.
- Core switch will provide high bandwidth to internal network resulting in fast data travel.
- Server farm will store different servers hosting required application by TCMPF. (e.g. ERP Landscape servers, Enterprise Management System, Anti Virus, Email, LDAP, Backup, Web Portal and Customized applications etc.
- SAN will store the data for TCMPF and will be connected to Server Farm through 2 SAN switches (redundant).
- Tape library will take backup of critical data and store on tapes.
- Intrusion Prevention system would detect malicious traffic and further protects the DC – DR sites. Intrusion system would also detect (and prevent) any intrusion from Internet/extranet network.
- The Application servers would be accessing the database from the backend in order to process the user / employees queries/requests.
- Infrastructure Services such as Firewall Service, Directory Service, Web Service, Database Service, messaging and data storage services etc. would be utilized for the ERP application.

4.5.1.17. Disaster Recovery Centre (DR)

DRC will be a scale down version of Primary DC. Security and performance of the Network should not degrade on utilization of DR in event of a disaster.. Data replication between DR and Primary DC will be in asynchronous mode.



DR Design Description

- Disaster Recovery site will be situated in different geography zone within India and will be a scale down version of DC. DR Site will provide same services as DC in case DC is not available for any reason. Though there will be compromise on performance levels to save huge cost. DR will have all the equipment as DC without redundancy.

4.5.1.18.

4.5.1.19. Set-up at Data Centre and DR Site

The DC & DR would be hosting the IDMS application along with the other identified applications. In order to meet these expectations various application servers/systems would be required such as:

- **Portal Servers**

Web based applications are easily accessible from any sort of the network, Intranet, internet or extranet. Therefore, portal server plays a vital role this initiative. The portal server would be used for providing access to the IDMS application through internet / intranet. Using portal, relevant contents of the applications can be easily enabled, updated and deployed at the earliest. Portal would provide a base template to users who want to access the application via internet. The portal server shall allow users to access the IDMS application from internet and the same shall be configured in CC/BMC mode.

- **Application Servers**

Application would be required as middle tier for various web based applications. Application server would take care of the necessary workflow and portal server would be required for the interfacing with the end user. Both the portal and application server would be seamlessly integrated to provide high availability and performance. With the use of load balancers, user requests would be distributed among various CC/BMCed/common servers. The application servers will be configured in active – active and in CC/BMC mode and shall also have the database configured accordingly.

- **Database Servers**

The database/repository provides all the relevant information required to process the applications. Database server would be required to store and access data with ease. This would also be integrated with multiple applications, residing at the DC.

- **AAA Server (Enterprise Access Server)**

Using Directory services DC administrator will be able to define centralized authentication & authorization mechanisms for users. This would enable associate policies such as security, management etc on all servers/systems from a centralized console and enhances security, reduces IT complexity and increase overall efficiency. It would be LDAP v3 compliant, in order to have integrated interoperability, security & manageability. It would also enable central authentication thus enabling single sign-on (SSO) mechanism. Therefore this user directory would enable easy manageability that is creation, modification and deletion of user records. It would further help to integrate with various other services like messaging, proxy, etc. The directory services should also be able to cater the requirements of the TCMPF for Client workstations also. The AAA server shall be hosted at both the DC and DR site and shall be configured accordingly

- **Firewall**

A firewall is a dedicated appliance, or software running on a server, which inspects network traffic passing through it, and denies or permits passage based on a set of rules. A firewall's basic task is to regulate some of the flow of traffic between computer networks of different trust levels. Firewall shall be robustly configured so as to stop any kind of attack at the root level itself

- **Intrusion Detection**

Any attempts of intrusion over a network will be detected and logged into a database, which will form the basis of reports generated. This would provide proactive information while the network is being compromised based on certain network patterns detected.

- **Staging Server**

It would be required to deploy a separate server as Staging server where all the new services are deployed on this staging server before it is brought on to the production servers. There shall be provision in the hardware for separate Test & Development System for each software application so that production system shall not get affected in case of application of patches, versions change etc. The development server shall make provision for all different system software platform used along with all required compliers and libraries. It shall have all application software and utilities along with the provision to customize and test the applications. It shall also have provision for version control and version management.

- **Helpdesk System**

An ITIL based Helpdesk system would be used for assisting the service delivery by SI for DC. Helpdesk system would automatically generate the incident tickets and log the call. Such calls are forwarded to the desired system support personnel deputed by the SI. These personnel would look into the problem, diagnose and isolate such faults and resolve the issues timely. The helpdesk system would be having necessary workflow for transparent, smoother and cordial DC support framework.

- Provide flexibility of logging incident manually via windows GUI and web interface.
- The web interface console of the incident tracking system would allow viewing, updating and closing of incident tickets.
- System should provide Knowledge base
- Provide seamless integration to events/incident automatically from NMS / EMS.
- Allow categorization on the type of incident being logged.

- Provide classification to differentiate the criticality of the incident via the priority levels, severity levels and impact levels.
- Each incident could be able to associate multiple activity logs entries manually or automatically events / incidents from other security tools or EMS / NMS.
- Provide audit logs and reports to track the updating of each incident ticket.
- Proposed incident tracking system would be ITIL compliant.
- It should integrate with Enterprise Management System event management and support automatic problem registration, based on predefined policies.
- It should be able to log and escalate user interactions and requests.
- It should provide status of registered calls to end-users over email and through web.
- **Load Balancer**

The load balancer would be required for distributing workloads to a set of networked computer servers in such a manner that the computing resources are used in an optimal manner. The load balancer should support segmentation/virtualization to distribute load for multiple services, servers. This would increase the availability of the server and will also increase the performance as multiple servers would be sharing the service load.

- **Backup Server**

Backup server would be used for backing up the key data on regular interval. The backing up of the data would be an automated process. Whenever desired the backed up data can be restored/retrieved to the desired system configuration.

- **Storage, Backup & Tapes**

SAN and Tape library will be based on space and performance requirement for ERP application. This shall be done after taking RAID and disaster requirement for each application.

- Industry standard Back up policy will be implemented with enough precaution to eliminate permanent data loss under any circumstances except disaster.
- The backup processes within the Data Centre will ensure that all lost data can be recovered in the event of data centre failure.
- **Enterprise Management System (EMS)**

For overall management of the Data centre components, an Enterprise Management System (EMS) should be utilized and prepare a category wise detailed list of elements to be monitored, monitoring parameters and the monitoring frequency in terms of critical, semi critical and non-critical categories in each Data Centre.

- **General Instructions for Data Centre and DR Site Setup and Operations**

The Setup should have the Capability of Applications running on a single server or on multiple servers. Provision would be provided to add additional servers / databases with the growth transactions without any loss of performance and functionality. Requisite provisions for maintaining the state and consistency of data in databases. Automated Data Consistency Checks and Cleansing would be possible on a regular basis, across the system to prevent corruption and inconsistencies.

Data Centre and DR Site Setup

- All LAN cabling shall meet the international standards and guidelines for structured cabling.
- The Data centre offered for hosting of the ERP application would be a Tier III or higher and should conform with ISO 27001 standards

11.5.IT Architecture Planning

11.5.1. Guiding Architecture Principles

The IT architecture principles defined in this section are the underlying general rules and guidelines that will drive the subsequent development, use and maintenance of architectural standards, frameworks and future state target architecture.

1. Principle 1: Data is an enterprise asset

i. Statement - Information is a high value asset to be leveraged across the organization to improve performance and decision making.

ii. Rationale - Accurate information would ensure effective decision making and improved performance

iii. Implications - Effective and careful data management is of high importance and top priority should be placed on ensuring where data resides, that its accuracy can be relied upon, and it can obtained when and where needed

2. Principle 2: Data availability and sharing

i. Statement - Enterprise data to be readily available (real-time) and shared, so as not to delay the business processes, and will enable appropriate timely sharing across the organization

ii. Rationale - Readily available and shared enterprise data will facilitate timely data access at every level of the organization and provide timely responses to information requests with effective service delivery and improved decision making.

iii. Implications -

- Data changes to be propagated immediately and batch processes to be avoided.
- Applications to provide shared data for reuse. Shared data to be centrally controlled and managed at the appropriate organizational level.
- To enable data sharing organization must develop and abide by a common set of policies, procedures, and standards governing data management and access.

3. Principle 3: Data security and integrity

i. Statement - Organization to protect information against unauthorized access, denial of service, and both intentional and accidental modification. Data security, audit controls and integrity to be ensured across the data life cycle management from creation, accessed, viewed, updated and when deleted (or inactivated).

ii. Rationale - Provides a proactive way to build defences against possible security threats and vulnerabilities, allowing errors to be corrected and system misuse to be minimized.

iii. Implications -

- Data security policies and standards to be developed and adopted
- Data security controls to be put in place to restrict access to enterprise data based on roles and access privileges. Data audit logs should be maintained for audit trail purposes. Security controls will be able to be reviewed or audited through some qualitative or quantitative means for traceability and to ensure that risk is being maintained at acceptable levels.
- In order to adequately provide access to secured information, security needs must be identified and developed at the data level, not the application level. Database design must consider and incorporate data integrity requirements.
- Procedures for data sharing need to be established. Data integrity during data synchronization needs to be ensured across the enterprise.

4. Principle 4: Interoperability and adherence to open standards

i. Statement - Software and hardware to conform to open standards that promote interoperability for data, applications, and technology

ii. Rationale - Interoperability provides the ability to effectively interconnect, collaborate, access and facilitates seamless data exchange. Open standard promote platform independence, vendor neutrality and the ability to use across multiple implementations to allow interoperability, flexibility and greater freedom from technology and vendor lock-in.

iii. Implications -

- Policies defined should reinforce and standards selected should facilitate interoperability and promote use of open standards.
- The architecture is to be designed based on SOA policies to allow information exchange across business functions through a standard based protocol. Use of standard web services based protocols for information exchange, enable compliance with OASIS WS-* industry standard web service specifications of security, interoperability, reliability etc to be adopted.
- Use of middleware could be considered for the underlying implementation of the enterprise-wide service delivery gateway to facilitate data exchange within and across through a common interoperable platform.
- Select open standards based products, tools, designs, applications, and methods

5. Principle 5: Simplicity with ease of use (Usability)

i. Statement - The architecture and application solutions to be designed to promote simplicity and ease of use to the end users while still meeting business requirements.

ii. Rationale - Provides a simpler and more cost-effective solution. Reduces development time and makes the solution easier to maintain when changes in requirements occur.

iii. Implications -

- Efficiency and layout design are the key considerations that enhance usability which should be factored in while designing the application. Standard and consistent usability criteria must be defined. An intuitive, user friendly, well articulated navigation method for the applications greatly enhances the usability of the application.

6. Principle 6: Quality of Service (QoS)

i. Statement - The application solutions and architecture to be designed to support growth, adaptability, performance, scalability, flexibility, reliability and extensibility.

ii. Rationale - Improved quality of service provides more effective, efficient and faster service delivery with minimum disruption thus increasing business agility and the ability to response to change quickly.

iii. Implications -

- Services/solutions should be flexible and extensible to respond to, accommodate and adapt to changing business needs and unanticipated requirements easily. Consolidate and simplify technology applications wherever possible to minimize complexity. Ongoing application, database and server consolidation may be required.
- Software should use meta-data to configure itself (using declarations rather than coding).
- Avoid proprietary solutions and technologies if possible. Consider adhering to latest industry best practices and technical standards.
- The infrastructure should support an environment that allows applications to start small, grow quickly, and operate inexpensively. An adaptable infrastructure provides the capability to add to the current infrastructure with minimum inconvenience to the user.
- The IT architecture should be designed to support the overall SLA requirements around scalability, availability and performance.
- Each application should be performance tested to identify performance issues. The potential performance bottlenecks need to be identified and cost-effective paths for performance improvements should be provided for these identified problem areas.
- The system infrastructure should be architected considering failover requirements and should ensure that a single server or network link failure does not bring down the entire system.
- The system should be reliable handling every request and yield a response. It should handle error and exception conditions effectively

7. Principle 7: Business Continuity

i. Statement - Organization business operations to continue regardless of system failures and external events like natural calamities and disaster.

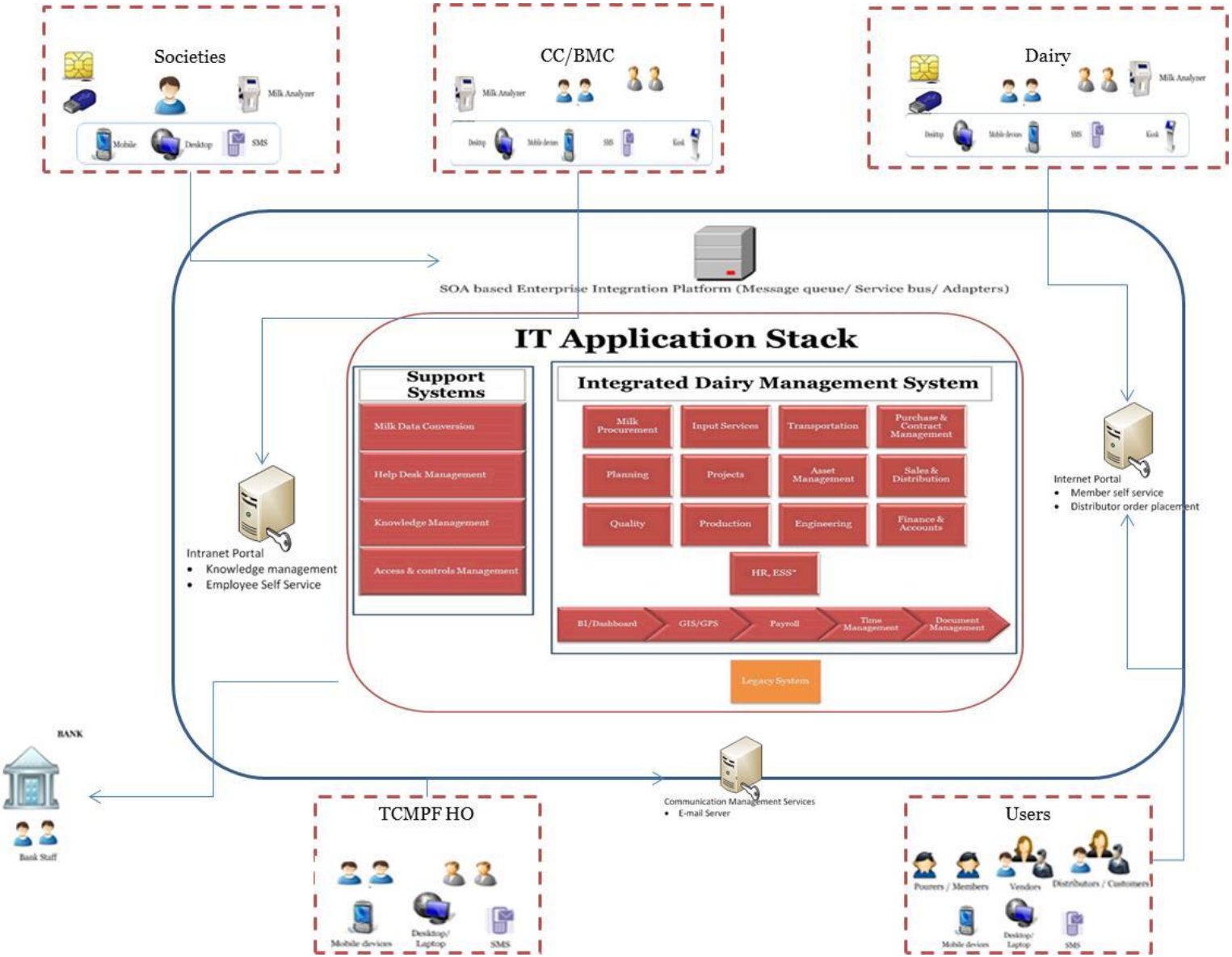
ii. Rationale - Assuring efficient, effective and proactive risk management of business operations and increase IT operational availability (people, process and technology) without disruption.

iii. Implications -

- Hardware failure, natural disasters, and data corruption should not be allowed to disrupt or stop dairy operations. The government service functions must be capable of operating on alternative information delivery mechanisms
- Develop adequate and relevant business continuity and disaster recovery plans
- Dependency on shared system applications mandates that the risks of operation interruptions must be established in advance and managed. Management includes but is not limited to periodic reviews, testing for vulnerability and exposure, or designing mission-critical services to assure business function continuity through redundant or alternative capabilities.
- Recoverability, redundancy, and maintainability must be addressed at the time of design.
- Applications must be assessed for criticality and impact on the enterprise mission, in order to determine what level of continuity is required and what corresponding recovery plan is necessary.

11.5.2. *Overall IT Architecture Landscape*

The overall recommended IT Architecture landscape is depicted below -



11.5.3. *Integration Architecture*

This section recommends the proposed integration architecture aligning with the overarching architectural principles.

The following are the integration specifications for the various integration scenarios -

Real-time integration

Integration of point of transaction devices in Societies with IDMS server

The possible solutions options for data transfer from societies to IDMS server as indicated in the above flow are -

1. Directly from desktop/ laptop/ mobile device through GSM/GPRS.

a. In this case the milk procurement data will be transferred to a central staging server after its converted into a standard format by the MDCS Application Module.

b. Basic data quality check need to be performed before it is loaded in the milk procurement module.

c. Once the data is captured in the milk procurement module, any staffs from BMC/CC/Union Dairy/Federation accessing the online application through LAN/WAN can view the data online.

2. In case of unavailability of aforementioned infrastructure at the society level, data may be entered in local removable storage services (e.g. pen drive). The local version of the procurement data will be uploaded by the BMC/CC staff from the milk procurement user interface. However the uploaded data will undergo data validation and data conversion through the MDCS Application Module before saving it in the central database.

Integration of applications deployed at TCMPF data centre

The need for a Service Oriented Architecture (SOA) is felt that will facilitate TCMPF in defining an enterprise integration platform. An SOA platform will help in data exchange across applications in real-time mode (both synchronous and asynchronous), promote loose coupling with ease of maintenance and change, facilitate rapid composition of complex services, achieve scalability through modularity, and improved business visibility.

SOA is an architectural style that allows the integration of heterogeneous applications & users into flexible service delivery architecture. Discrete business functions contained in enterprise applications could be organized as layers of interoperable, standards-based shared "services" that can be combined, reused, discovered and leveraged by other applications and processes.

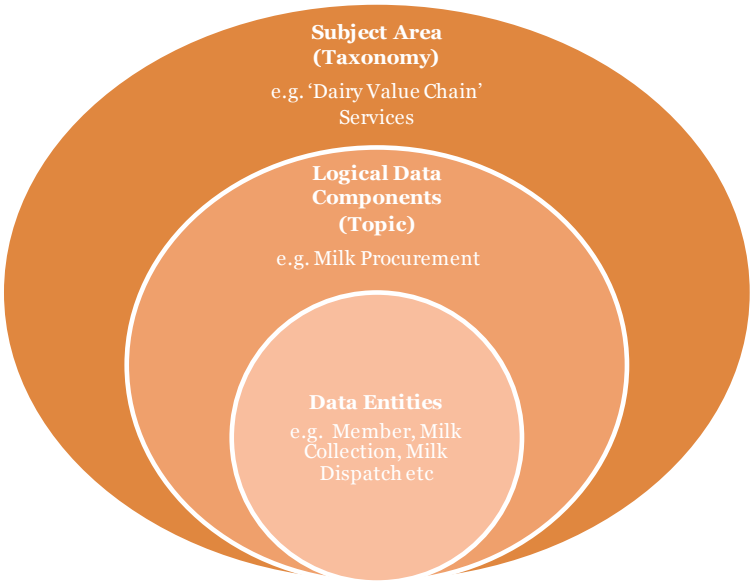
All real-time data integration across the enterprise applications (e.g. milk procurement, Intranet Portal etc.) will be through middleware based enterprise integration platform.

11.5.4. *Data Architecture*

A structured and comprehensive approach to define the data architecture of TCMPF is essential for the effective use and management of the enterprise data. The following are the recommended data architecture segments and the guidelines that need to be considered to efficiently manage the enterprise data assets.

Data Classification

1. Critical core enterprise data entities utilized across the dairy value chain need to be defined to maintain an enterprise level data standard across the various locations and internal departments of the TCMPF.
2. It is essential to define and adopt an enterprise-wide data classification scheme to capture the context of the identified data entities. Classifying data entities as per subject area and defining the enterprise level data standards will ensure seamless interoperability by remove ambiguities and inconsistencies in the use of data across the various locations and internal departments of the TCMPF
3. A data entities catalogue based on the data classification scheme need to be maintained and shared across various IT initiatives to ensure adherence to the common enterprise data standard
4. It is advisable to adopt the following data classification scheme to define the data context of the critical core data assets of TCMPF.


Subject Area (Taxonomy)
e.g. 'Dairy Value Chain' Services
Logical Data Components (Topic)
e.g. Milk Procurement
Data Entities
e.g. Member, Milk Collection, Milk Dispatch etc

- Taxonomy/Subject Area
- It provides a means for classifying data entities based on the business / domain area they most closely align with, the stakeholders they impact, the extend or degree to which they are dependent on each other and the need to be managed as a unit.
- E.g. Categorizing data based on subject area like 'Dairy Value Chain', 'Quality', and 'Transportation' Service etc. Taxonomy can be further categorized to Topic.
- Topic/Logical Data Components
- This is the central concept for applying context to data. The topic/logical data content within each subject area provides a boundary zone that encapsulates related data entities to form a logical grouping of encapsulated modules for governance, security, and deployment purposes.
- E.g., Sub-categorization of data based on logical data components within a subject area like 'Milk Procurement' logical data component within 'Dairy Value Chain' subject area.

Enterprise Core Data Model

The semantics of the core data entities to be identified in the earlier step need to be captured in the form of enterprise-wide core data model. Conceptual and logical data modelling technique could be adopted.

Typically the approach adopted for defining the enterprise core data model includes -

1. Define a generic core common data model based on the common master data entities and industry standard best practices that describe the core generic/master data entities at the enterprise level to be exchange & shared across departments
2. Define the specific subject area wise data model based on the specific business entities required to support the business process. Leverage the common data entities defined in the earlier step to support these business entities.

Currently data exists as silos with the lack of an enterprise data model and inability to connect and share data across locations and departments. Enterprise data model is the key discipline that needs to be defined to enable applications across the IT landscape adheres to the consistent data standards defined across the enterprise. This will facilitate in seamless data sharing and interoperability.

Dairy value chain analysis of core business processes and functions will help draw the boundary of enterprise data domain and to identify key subject areas. The conceptual data model and logical data model make up for next layers of the enterprise data model.

Conceptual Data Model

The high level enterprise core data model for TCMPF has been captured in form of enterprise-wide core conceptual data model.

The conceptual data model (CDM) identifies the semantics of data assets from the business context point of view & depicts the highest- level significant business data entities along with their relationship to emphasize the business rules. UML Class diagram has been used as the modelling technique for depicting the CDM. The CDM data entities typically do not contain any attributes and is technology and application dependent.

The CDM has been depicted as enterprise common master data model and process centric data model based on business entities required to support the business process of TCMPF.

Logical Data Model

Logical data model depicts the logical view of the conceptual data model by representing the data in as much detail as possible, without regard to how they will be physical implemented in the database. The guidelines for defining the logical data model are provided below.

- Identifying the data elements / attributes for each data entity,
- Defining the data type for each data elements / attributes
- Applying normalization, applying generalization / inheritance where applicable defining super type and specialized sub type data entities
- Absorbing relationships as attributes applying cardinality or multiplicity

Defining the logical data model across the TCMPF value chain processes would require more detailed process study which should be typically taken up by the SI during the design phase of individual IT initiative. The Conceptual data model depicted in the earlier section will provide as the reference point for the subsequent development of the logical data model.

Data Integration

Data integration manages data transformation and data exchange across applications and data store based on the mode of integration essential be it batch-based including ETL, real-time message-driven asynchronous or web service based synchronous integration means.

Analytical Reporting & Dashboards

To cater to the analytical reporting and management dashboard requirements of TCMPF a centralized business intelligence solution has been proposed with the ability to generate dashboard and alerts and support multi-dimensional analysis.

- Data Source Layer
  - The major IDMS business applications e.g. Milk Procurement, Portals will provide the source data for the analytical reporting and dashboards.

- Data can be extracted from these systems leveraging various data integration techniques either directly from the database through JDBC/ODBC connectivity, as csv/flat files, xml files, through web service calls as appropriate and supported by the system

- Extract & Data Load Layer
  - Transactional data from these multiple data stores and databases will be loaded in the centralized common integrated reporting data store
  - The structure of the centralized common integrated reporting data store can be a one-to-one match with the source tables or denormalized views of several source tables and will capture both current and historical data.
  - ETL or the underlying capabilities of the BI software could be leveraged to extract the data, perform a basic data cleansing and load the cleansed data to the mapped target data source.
  - Incremental or partial reloads need to be considered to add, update or replace only specified tables or append new data to an existing table. Provision to allow real-time synchronization could also be considered.
- DW/Analytical Layer
  - This is the most important layer that will summarize, aggregate, segment and/or further de-normalize the operational data to optimize re-use and facilitate ease of deployment and performance.
  - The DW will be the trusted source of data that focuses on modelling and analysis of data for informed decision making. Multi-dimensional aspects of the information will be analysed through the implementation of various facts and dimension tables.
  - Data marts need to be developed as required to optimize data access.
  - Analysis engine will handle calculation and graphic display of charts and graphs in the presentation layer (dashboards). The engine will calculate multiple cubes (one for each graph) in real-time mode and will promote user selection directly in the graph for further drill down.
- Presentation Layer
  - This is the presentation or user interface layer of the analytical solution where dashboards and analytical reports will be generated and presented to the end users. Most of the BI solution provides portals or web browser based user interface.
  - The UI layer will query data from the underlying analytical data marts and DW data stores.
  - Reports will be presented in multiple format e.g. spreadsheets, list boxes, charts & gauges, tabular reports etc, with export to excel and print capabilities.
  - Through the presentation layer users will be able to drill down on any graphical or tabular report for further breakdown and detailed information.
  - The access to the confidential analytical data through the BI user interface will be controlled through adequate authentication and authorization mechanism.
  - Authentication - The BI solution need to be integrated with the central LDAP, single sign-on and central authentication service as proposed in the security architecture section for user authentication.
  - Authorization - Access privilege is to be defined at various levels to restrict access to users/groups/domains to the entire BI application. Access controls rules need to be defined to restrict access at a finer granularity level i.e. to allow users/groups/domains to view specific set of records and fields.

11.5.5. Security Architecture

This section recommends the proposed security architecture aligning with the overarching architectural principles.

Authentication & Authorization

A strong authentication mechanism should be considered to protect unauthorized access to the IDMS applications. Consider use of at least two of the following forms of the authentication mechanism

1. Something you know, such as a password, PIN etc
2. Something you have, such as a smart card, hardware security token etc

3. Something you are, such as a fingerprint, a retinal scan, or other biometric methods

Levels of Authentication

Based on the security requirements the following levels of authentication should be evaluated.

1. For applications handling sensitive data it is recommended that in the least one factor authentication key in the form of a password is essential. Strong password complexity rules should be enforced to ensure confidentiality and integrity of the data

2. For applications handling highly sensitive data it is recommended that two factor authentication mechanisms should be considered. The first line of defence is the password conforming to the password complexity rules'. Along with the password next user has to provide a one-time password which varies for each session. One time passwords are valid for each session and it is not vulnerable to dictionary, phishing, interception and lots of other attacks. A counter synchronized One-Time Password (OTP) solution could be used for this purpose.

Centralized Identity and Access Management Model

It is recommended to adopt an enterprise level centralized authentication model that is secured and ensures that user has a single credential to access the all the services.

In this model there will a centralized authentication services with provision for centralized user registration and user credential store. A centralized user repository (directory services) for the storage of user credentials will also store the authorization information for the user which will be used in different application.

1. Central Access Management Service

a. This service will provide the central authentication service for the users/groups created by verification of the user credentials against the central LDAP user repository. When a user tries to login to any centralized application e.g. single window portal, milk procurement solution, the user credentials will be validated through the central authentication service.

b. Single Sign-On service will centrally maintain user session thus preventing user from multiple login when trying to access multiple applications.

2. Central Identity Management Service

a. This service will handle user life cycle management that will enable the user to manage the lifespan of the user account from its initial stage of provisioning to the end stage of de-provisioning. Typically user provisioning and de-provisioning is workflow driven that will require approval.

b. User management service will cover user administrative functionalities like creation, propagation and maintenance of user identity and privileges.

c. Self Service feature will allow end users (e.g. members) to maintain their user identity account including self-password reset which will significantly reduce helpdesk/admin effort to handle password reset requests.

d. The central user repository will store the user identity data and deliver it to other services (e.g. central authentication service) for credential verification. Adherence to LDAP v3 standard has been the dominant standard for central user repository

e. Enforce a robust and strong password policies that will allow users to change/reset password with password expiry and account lockout features, define and implement complex password rules and session timeout policies.

Authorization

Authorization of system users should be enforced by access controls. It is recommended to develop access control lists. Consider the following approach for developing access control list -

- Establish groups of users based on similar functions and similar access privilege.
- Identify the owner of each group
- Establish the degree of access to be provided to each group

Audit Trail & Audit Log

Audit trials or audit logs should be maintained. Log information is critical in identifying and tracking threats and compromises to the environment.
There are a number of devices and software that should be logged which include hardware & software based firewalls, web servers, authentication servers, central/domain controllers, database servers, mail servers, file servers, routers, DHCP servers etc.
It is essential to decide what activities and events should be logged. The events which ideally should be captured include

- Create, read, update and delete of confidential information
- User authentication and authorization activities, grant, modify or revoke user access rights, system,
- Network or service configuration changes,
- Application process start up, shutdown or restart, abort, failure or abnormal terminations, failure of network services,
- Detection of suspicious activities such as from Intrusion Detection and Prevention system, anti-virus, anti-spyware systems etc.

Infrastructure Security
The following focused initiatives to discover and remedy security vulnerabilities of the IT systems across the organization should be considered to proactively prevent percolation of any threat vectors.

1. Deploy anti-virus software to all workstations and servers to reduce the likelihood of a security threats
2. Deploy perimeter security technologies e.g. enterprise firewalls to reduce the likelihood of a security threats
3. Deploy web content filtering solutions to prevent threats from compromised websites to help identify and block potentially risky web pages
4. To reduce vulnerability to phishing and other e-mail security spams, install enterprise-level e-mail anti security software that checks both incoming and outgoing messages to ensure that spam messages are not being transmitted if a system becomes compromised.
5. Periodic scanning of the network will identify system level vulnerabilities
6. Log information is critical to identifying and tracking threats and compromises to the environment. The granularity and level of logging must be configured to meet security management's requirements. Establish processes for viewing logs and alerts.
7. Deploy technology to actively monitor and manage perimeter and internal information security.
8. Deploy network Intrusion Detection System (IDS) on the perimeter and key points of the network and host IDS to critical systems. Establish process to tune, update, and monitor IDS information.
9. Ensure encryption of sensitive data (e.g. passwords) in databases

11.6. Capacity Building, Training and Change Management

In order to successfully achieve and sustain the mandate of the IT strategy, TCMPF employees need to undergo extensive training and capacity building initiatives. The implementation of the applications suggested as per the IT strategy will lead to a changed work environment and will redefine the way services are offered to members, customers and the internal functioning of TCMPF. A training need exists when there is a gap between what is required of a person to perform their work competently and what they actually know. Employees at all levels in TCMPF need to be equipped with the necessary skills and abilities to perform in accordance with the changing requirements. The knowledge and skills gained during the training will increase abilities and allow participants to perform their jobs at an acceptable level. As per our observation and interaction with the federation we have conducted the training need analysis and our recommendation based on the analysis is detailed in the subsequent section.

Training need identified for the governance bodies and other target groups of the TCMPF are described below:

1. **IT Steering Committee**: IT steering committee includes the top management of the aavin and is responsible for recommendations and decisions regarding IT priorities, funding and other IT requirements. This committee provides strategic direction for IT across the business. To be able to assist in these activities, it is necessary to train them adequately on the IT applications especially the ERP product functionalities. Since the IT steering Committee members will drive the effectiveness of the IT applications implementation within the Owner, it is essential that requisite knowledge and skills are transferred to them by the Implementation partner.

2. **Architecture Review Team**: Advanced level training on system, networking, IT applications and other issues like security standards, updates etc would be provided to a this group as it would be this group which will be responsible for management of ICT resources, troubleshooting and issue resolution. They would be people with some technical background and would be involved with experts from the implementation team during the implementation to have a comprehensive idea of the entire solution architecture. They would oversee maintenance and other troubleshooting issues from the department's side.

3. **Programme Office**: The training of this committee will centre on various dimensions of project management & change management. Their mandate would also be to facilitate change management through the department. They should be in direct contact with the heads of all units so as to hasten the progress of the projects and motivate the employees to secure their commitment for this change. For project management aspects like cost management, resource management, quality management, monitoring, evaluating outcomes against goals and scope management they may be imparted specific training modules by expert teams.

4. **Business System Champions**: Application based advanced level training will be provided to persons who already possess a basic level of knowledge and ability in the department. This training naturally follows after the basic computer awareness and sensitisation training has been provided. The key people in the department need to have a full knowledge of the operation of applications they are going to be working with, the security aspects and operational risks, the checks and balances. The process re-engineering aspects and to-be processes are to be conveyed to the users and process owners.

5. **Staff at the field Level** (CC/BMC team, society, etc.): Based on our interaction with these officials it is evident that most of these staff members lacks basic operational knowledge on computers and IT related basic tools. Hence it is important to impart training on basics of computer operations. It will include extensive hand-on training on computer operation, operating system, basic tools, internet and email.

6. Besides the above a selected group from the above committees will undergo sensitisation 'training for the trainers'. Identified officers and staff would be provided 'training for the trainers' centrally, and in turn, would be responsible for providing the training to their own staff at their respective units/ offices across the locations. This training would help to sensitise the department staff about the basic concept of IT and benefits and impact of the same.

The nature of different trainings to be imparted and the groups in the department to be targeted with respect to individual training modules are summarised in the table below:

Training Area	Target Group				
	IT Steering Committee	**Architecture Review Team**	**Program Office**	**Business System Champions**	**Staff at the field Level**
General					
IT Application and its importance	√	√	√	√	√
Project management	√		√		
Technology Management		√			
Process Reform Management	√		√	√	
Communication	√	√	√	√	√
Change Management	√		√		
Basic Computer Training					√
Advanced Computer Training		√			
Train the trainer			√	√	√
Application/ Function Based					
Application based training by module				√	√
IT Functionality Training		√			
Process improvements (To-Be)		√			
Information Technology					
Basic Skills/Office Suite/ Internet	√	√	√	√	√
Basics Of Hardware And Networking Concepts		√			
Basics Of Programming Languages And Small Application Development, Basics Of Algorithms		√			
Web Technologies And Other Technologies		√			
Regular Back-Up Procedures		√			

Regular Back-Up Procedures		√				

The key contents for the training areas mentioned above are listed below. The implementation partner should sync up his training plan and content with the below provided content in order to hone the skill of the stakeholders to successfully implement and benefit from the suggested IT strategy:

Training Area	Content
IT Strategy and its importance	• What is IT Strategy • Goals of IT Strategy • Challenges IT Strategy
General project management	• IT planning • Managing change • Target setting • Activity scheduling • Resource allocation • Budgeting • Reporting • Monitoring & evaluation techniques • Project management tools – MS Project
Technology management	• Systems requirement specification • Systems integration solution architecting • Software Development Life Cycle (SDLC)
Process reforms management	• Process reengineering
Communication	• Role of communication in the change process • Issues and factors of success in • communication • Concepts on communication (verbal • and Non-verbal) • Feedback on individual styles of communication, • Listening ability • Presentation Skills –Concepts and experiential learning
Basic Computer Training	• Basic operational knowledge on computers and IT related basic tools
Advanced Computer Training	• Advanced level training on system, networking, IT applications and other issues like security standards, updates etc
Train the trainer	• Basic functionality training of the IT applications
Basic skills/office suite/ internet	• Introduction to computers • Office automation software (like word processing, spreadsheets, etc) • E-mail
Basics of Hardware and Networking Concepts	• Basic Components of Computer(including devices) • Introduction to Computer Network • Client-Server Architecture • Distributed Systems
Basics of Programming Languages and Small Application Development,	• Algorithm and pseudo code designing • Introduction to Programming Languages • Software Development, Design, Implement, Test Integration, etc

Training Area	Content
Basics of Algorithms	
Web technologies	• Introduction to internet technologies • Scripting languages (javascript, vbscript) • Offline tools
Regular backup	• The need of backup and what back ups are to be taken • Frequency of backups • Roles & responsibilities regarding backups • The media and its usage policy • Destruction policy • Storage policy • Archival policy • Retrieval policy

11.7.Project Roll-out Plan

11.7.1. Pilot Implementation

The developed IDMS application shall primarily be rolled out on pilot basis in locations decided by TCMPF. The IT compute infrastructure installed at Data Centre, Disaster Recovery Centre (DRC) shall house the application & database in redundant manner and should be ready before pilot implementation. Training for the pilot location staff should be completed before initiating pilot implementation. Pilot locations should be chosen to include locations with older hardware, new hardware supplied by the SI. Connectivity should be provided for the pilot locations.

Post the pilot implementation the system run through stabilisation period of 15 days, during the period the system should be able meet the operational SLA requirements mentioned in the RFP. On compliance to the same the system is deemed to be stable and fit for State-Wide Roll-Out.

11.7.2. State-wide Roll-Out

Once the system has been rolled out across the State post pilot acceptance, the System Integrator will notify the AAVIN so that the State-wide system may be assessed by AAVIN /Third Party Assessment and Acceptance Agency. The procedure adopted thereafter is similar to the procedure adopted for acceptance of Pilot. A sign-off on the Go-Live will be provided by the AAVIN (TCMPF) after Acceptance.

11.7.3. *Project Timelines#*

#	Milestones	Deliverables	Timeline
1.	Award of Contract to System Integrator		T*
2.	Presentation of System Design (High Level Design Document), SRS, Data Structures, controls to Project Implementation Committee (PIC) for review & ratification by the department	• Inception Plan • Project Implementation Plan • System Requirement Specifications (SRS) • Implementation Strategy for pilot	T+45 days
3.	Development of IDMS Application as per the approved System Design & architecture for pilot location and unit testing	• High Level and Low Level Design • Application architecture documents • Application component design including component deployment views, control flows, etc. • Fully functional IDMS application • User and Operational Manual	T+285 days
4.	Training to key Stakeholders for Pilot Implementation	• Training, Change Management and Capacity Building Plans	T+285 days***
5.	User Acceptance Testing	• Functional and non-functional testing • Application flows and logic. • GUI design (screen design, navigation, etc.). • All Test Plans	T+300 days
5.	Pilot Implementation	• Knowledge Transfer plan • Risk identification & mitigation Plan • Issue Logs	T+330 days
6.	Stabilization Period – Pilot Implementation	• SLA and Performance Monitoring Plan	T+375 days
7.	State-wide Roll Out	• Knowledge Transfer plan • Risk identification & mitigation Plan • Issue Logs	T+500 days
8.	Training & Change Management	• Training, Change Management and Capacity Building Plans	T+500 days***
9.	Final Acceptance Testing	• Functional and non-functional testing • Application flows and logic. • GUI design (screen design, navigation, etc.). • All Test Plans	T+520 days
10.	Stabilization Period – Roll out Implementation	• SLA and Performance Monitoring Plan	T+545 days

11.	"Go-Live**"	• Final Sign-off	T+550 days = 'P'
12.	Start of O&M Phase	• SLA and Performance Monitoring Plan • Risk identification & mitigation Plan • Issue Logs	P
13.	Closure of O&M Phase	• Knowledge Transfer plan	P+2 years

#Tentative and subject to change as per the requirements of TCMPF (aavin)
*T refers to the date in which the Master Service Agreement is signed between the System Integrator and AAVIN (TCMPF).

**"Go-live" is the date on which the proposed web-based application (Pilot Phase) is completely operational as per the requirements provided in Volume I of this RFP, subsequent changes agreed and signed-off with the SI and all the acceptance tests are successfully concluded to the satisfaction of AAVIN (TCMPF).
*** refers to parallel activities